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FCC SAR TEST REPORT

Report No.: STS2103175H03

Issued for

Shanghai Unihertz E-Commerce Co., Ltd

Room 302, No. 5, Lane 59, Shennan Rd, Minhang district,
Shanghai, China 201108

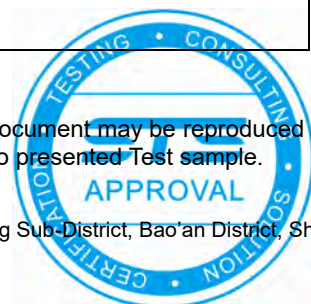
Product Name:	Smart phone
Brand Name:	Unihertz
Model Name:	Titan pocket
Series Model:	N/A
FCC ID:	2AK6CTITANPOCKET
Test Standard:	ANSI/IEEE Std. C95.1
	FCC 47 CFR Part 2 (2.1093)
	IEEE 1528: 2013
Max. Report SAR (1g):	Head: 0.531 W/kg
	Body: 1.227 W/kg

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Test Report Certification

Applicant's name : Shanghai Unihertz E-Commerce Co., Ltd
Address : Room 302, No. 5, Lane 59, Shennan Rd, Minhang district, Shanghai, China 201108
Manufacturer's Name : OBLUE Communication Technology Co., Ltd.
Address : 7th floor, building B, dayou industrial and trade industrial park, heping yonghe road, fuyong street, baoan district, Shenzhen, China

Product description

Product name : Smart phone
Brand name : Unihertz
Model name : Titan pocket
Series Model : N/A

Standards : ANSI/IEEE Std. C95.1-1992
FCC 47 CFR Part 2 (2.1093)
IEEE 1528: 2013

The device was tested by Shenzhen STS Test Services Co., Ltd. in accordance with the measurement methods and procedures specified in KDB 865664 The test results in this report apply only to the tested sample of the stated device/equipment. Other similar device/equipment will not necessarily produce the same results due to production tolerance and measurement uncertainties.

Date of Test

Date (s) of performance of tests : 29 Mar. 2021 ~ 06 May 2021

Date of Issue : 22 May 2021

Test Result : **Pass**

Testing Engineer :

(Luffy He)

Technical Manager :

(Sean she)

Authorized Signatory :

(Vita Li)





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**Revision History**

Rev.	Issue Date	Report No.	Effect Page	Contents
00	22 May 2021	STS2103175H03	ALL	Initial Issue





1. General Information

Environmental evaluation measurements of specific absorption rate (SAR) distributions in emulated human head and body tissues exposed to radio frequency (RF) radiation from wireless portable devices for compliance with the rules and regulations of the U.S. Federal Communications Commission (FCC).

1.1 EUT Description

Product Name	Smart phone
Brand Name	Unihertz
Model Name	Titan pocket
Series Model	N/A
Model Difference	N/A
Battery	Rated Voltage:3.85V Charge Limit Voltage:4.4V Capacity: 4000MAH
Device Category	Portable
Product stage	Production unit
RF Exposure Environment	General Population / Uncontrolled
IMEI	866230050000757 866230050000765
Hardware Version	G66_V2.5
Software Version	Titan_pocket_20210326
Frequency Range	GSM 850: 824 MHz ~ 849 MHz PCS1900: 1850 MHz ~ 1910 MHz WCDMA Band II: 1850 MHz ~ 1910 MHz WCDMA Band IV:1710 MHz ~ 1755 MHz WCDMA Band V: 824 MHz ~ 849 MHz CDMA&EVDO: BC0: 824.70 MHz~ 848.31 MHz BC1: 1851.25 MHz~ 1908.75 MHz LTE Band 2:1850~1910MHz LTE Band 4:1710~1755MHz LTE Band 5:824~849MHz LTE Band 7:2500~2570MHz LTE Band 12:699~716MHz LTE Band 13:777~787MHz LTE Band 17:704~716MHz LTE Band 25:1850~1915MHz LTE Band 26:814~849MHz LTE Band 38:2570~2620MHz LTE Band 40: 2305~2315MHz and 2350~2360MHz LTE Band 41:2555~2655MHz LTE Band 66:1710~1780MHz WLAN802.11b/g/n20: 2412 MHz ~ 2462 MHz WLAN 802.11n40: 2422 MHz ~ 2452 MHz WLAN 802.11a/n20/n40: 5150 ~ 5250 MHz WLAN 802.11a/n20/n40: 5250 ~ 5350 MHz WLAN 802.11a/n20/n40: 5470 ~ 5725 MHz WLAN 802.11a/n20/n40: 5725 ~ 5850 MHz Bluetooth: 2402 MHz to 2480 MHz NFC: 13.56MHz



Max. Reported SAR(1g): (Limit:1.6W/kg)	Band	Mode	Head (W/kg)	Body Worn and Hotspot(W/kg)
	PCE	GSM 850	0.148	0.266
	PCE	GSM 1900	0.042	0.836
	PCE	WCDMA Band II	0.061	0.631
	PCE	WCDMA Band IV	0.172	1.215
	PCE	WCDMA Band V	0.404	0.462
	PCE	CDMA BC0	0.531	0.481
	PCE	CDMA BC1	0.359	0.918
	PCE	LTE Band 2	0.087	0.647
	PCE	LTE Band 4	0.123	1.037
	PCE	LTE Band 5	0.408	0.470
	PCE	LTE Band 7	0.328	0.962
	PCE	LTE Band 12	0.222	0.339
	PCE	LTE Band 13	0.308	0.390
	PCE	LTE Band 17	0.221	0.330
	PCE	LTE Band 25	0.052	0.784
	PCE	LTE Band 26	0.434	0.497
	PCE	LTE Band 38	0.129	1.227
	PCE	LTE Band 40	0.113	0.455
	PCE	LTE Band 41	0.084	0.492
	PCE	LTE Band 66	0.196	1.210
	DTS	2.4G WLAN	0.046	0.030
	NII	5.2G WLAN	0.342	0.342
	NII	5.3G WLAN	0.344	0.344
	NII	5.6G WLAN	0.314	0.314
	NII	5.8G WLAN	0.320	0.320
	DSS	Bluetooth ^{Note}	0.209	0.209
1-g Sum SAR			0.875	1.571
FCC Equipment Class	Licensed Portable Transmitter Held to Ear (PCE) Part 15 Spread Spectrum Transmitter (DSS) Digital Transmission System (DTS) Unlicensed National Information Infrastructure TX (NII)			
Operating Mode:	GSM: GSM Voice; GPRS/EGPRS Class 12 WCDMA: RMC, HSDPA, HSUPA Release 6 LTE: QPSK, 16QAM WLAN: 802.11 a/b/g/n20/n40/a/ac20/n20/n40/ac40/ac80 Bluetooth: 4.2(GFSK + π /4DQPSK+8DPSK)			
Antenna Specification:	GSM/WCDMA/LTE: PIFA Antenna Bluetooth: PIFA Antenna WLAN: PIFA Antenna			
SIM Card	Support dual-SIM, dual standby, the multiple SIM card with two lines cannot transmitting at the same time			
Hotspot Mode	Support			
DTM Mode	Not Support			
Note: 1. Bluetooth SAR was estimated 2. The dual SIM card mobile has 2 SIM slots and supports dual SIM dual standby. The WWAN radio transmission will be enabled by either one SIM at a time (Single active) 3. After pre-scan two SIM cards power, we found test result of the SIM1 was the worse, so we chose SIM1 card to perform all tests. 4. The EUT battery must be fully charged and checked periodically during the test to ascertain uniform power				



1.2 Test Environment

Ambient conditions in the SAR laboratory:

Items	Required
Temperature (°C)	18-25
Humidity (%RH)	30-70

1.3 Test Factory

ShenZhen STS Test Services Co.,Ltd.

A 1/F, Building B, Zhuoke Science Park, No.190 Chongqing Road, HepingShequ, Fuyong Sub-District, Bao'an District, Shenzhen, Guang Dong, China

FCC test Firm Registration No.: 625569

IC Registration No.: 12108A

A2LA Certificate No.: 4338.01





2. Test Standards and Limits

No.	Identity	Document Title
1	47 CFR Part 2	Frequency Allocations and Radio Treaty Matters; General Rules and Regulations
2	ANSI/IEEE Std. C95.1-1992	IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz
3	IEEE Std. 1528-2013	Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques
4	FCC KDB 447498 D01 v06	Mobile and Portable Device RF Exposure Procedures and Equipment Authorization Policies
5	FCC KDB 865664 D01 v01r04	SAR Measurement 100 MHz to 6 GHz
6	FCC KDB 865664 D02 v01r02	RF Exposure Reporting
7	FCC KDB 941225 D01 v03r01	SAR Measurement Procedures for 3G Devices
8	FCC KDB 941225 D05 v02r05	SAR for LTE Devices
9	FCC KDB 941225 D06 v02r01	Hotspot Mode SAR
10	FCC KDB 648474 D04 v01r03	SAR Evaluation Considerations for Wireless Handsets
11	FCC KDB 248227 D01 Wi-Fi SAR v02r02	SAR Considerations for 802.11 Devices

(A). Limits for Occupational/Controlled Exposure (W/kg)

Whole-Body	Partial-Body	Hands, Wrists, Feet and Ankles
0.4	8.0	20.0

(B). Limits for General Population/Uncontrolled Exposure (W/kg)

Whole-Body	Partial-Body	Hands, Wrists, Feet and Ankles
0.08	1.6	4.0

NOTE: Whole-Body SAR is averaged over the entire body, partial-body SAR is averaged over any 1 gram of tissue defined as a tissue volume in the shape of a cube. SAR for hands, wrists, feet and ankles is averaged over any 10 grams of tissue defined as a tissue volume in the shape of a cube.

Population/Uncontrolled Environments:

Are defined as locations where there is the exposure of individuals who have no knowledge or control of their exposure.

Occupational/Controlled Environments:

Are defined as locations where there is exposure that may be incurred by people who are aware of the potential for exposure, (i.e. as a result of employment or occupation).

NOTE

GENERAL POPULATION/UNCONTROLLED EXPOSURE

PARTIAL BODY LIMIT

1.6 W/kg

3. SAR Measurement System

3.1 Definition of Specific Absorption Rate (SAR)

SAR is related to the rate at which energy is absorbed per unit mass in an object exposed to a radio field. The SAR distribution in a biological body is complicated and is usually carried out by experimental techniques or numerical modeling. The standard recommends limits for two tiers of groups, occupational/controlled and general population/uncontrolled, based on a person's awareness and ability to exercise control over his or her exposure. In general, occupational/controlled exposure limits are higher than the limits for general population/uncontrolled.

The SAR definition is the time derivative (rate) of the incremental energy (dW) absorbed by (dissipated in) an incremental mass (dm) contained in a volume element (dv) of a given density (ρ). The equation description is as below:

$$SAR = \frac{d}{dt} \left(\frac{dW}{dm} \right) = \frac{d}{dt} \left(\frac{dW}{\rho dv} \right)$$

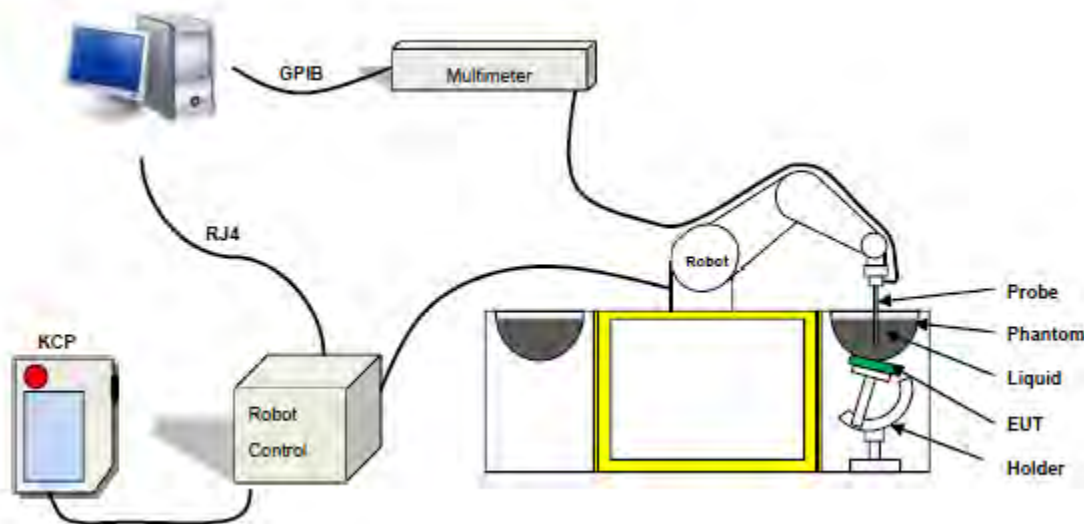
SAR is expressed in units of Watts per kilogram (W/kg) SAR measurement can be related to the electrical field in the tissue by

$$SAR = \frac{\sigma E^2}{\rho}$$

Where: σ is the conductivity of the tissue,
 ρ is the mass density of the tissue and E is the RMS electrical field strength.

3.2 SAR System

MVG SAR System Diagram:



COMOSAR is a system that is able to determine the SAR distribution inside a phantom of human being according to different standards. The COMOSAR system consists of the following items:

- Main computer to control all the system
- 6 axis robot
- Data acquisition system
- Miniature E-field probe
- Phone holder
- Head simulating tissue

The following figure shows the system.



The EUT under test operating at the maximum power level is placed in the phone holder, under the phantom, which is filled with head simulating liquid. The E-Field probe measures the electric field inside the phantom. The Open SAR software computes the results to give a SAR value in a 1g or 10g mass.

3.2.1 Probe

For the measurements the Specific Dosimetric E-Field Probe SN 07/21 EPG0352 with following specifications is used

- Probe Length: 330 mm
- Length of Individual Dipoles: 2 mm
- Maximum external diameter: 8 mm
- Probe Tip External Diameter: 2.5 mm
- Distance between dipole/probe extremity: 1 mm
- Dynamic range: 0.01-100 W/kg
- Probe linearity: 3%
- Axial Isotropy: <0.10 dB
- Spherical Isotropy: <0.10 dB
- Calibration range: 450 MHz to 6 GHz for head & body simulating liquid.
- Angle between probe axis (evaluation axis) and surface normal line: less than 30°

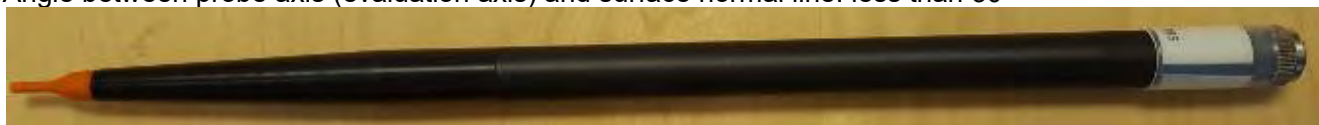


Figure 1-MVG COMOSAR Dosimetric E field Dipole

3.2.2 Phantom

For the measurements the Specific Anthropomorphic Mannequin (SAM) defined by the IEEE SCC-34/SC2 group is used. The phantom is a polyurethane shell integrated in a wooden table. The thickness of the phantom amounts to 2mm +/- 0.2mm. It enables the dosimetric evaluation of left and right phone usage and includes an additional flat phantom part for the simplified performance check. The phantom set-up includes a cover, which prevents the evaporation of the liquid.

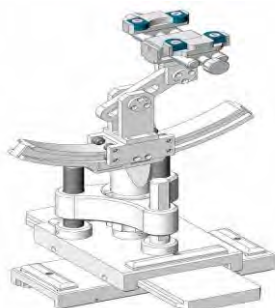
SN 32/14 SAM115



SN 32/14 SAM116



3.2.3 Device Holder



The SAR in the phantom is approximately inversely proportional to the square of the distance between the source and the liquid surface. For a source at 5 mm distance, a positioning uncertainty of ± 0.5 mm would produce a SAR uncertainty of ± 20 %. Accurate device positioning is therefore crucial for accurate and repeatable measurements. The positions in which the devices must be measured are defined by the standards.



4. Tissue Simulating Liquids

4.1 Simulating Liquids Parameter Check

The head tissue dielectric parameters recommended by the IEEE SCC-34/SC-2 in P1528 have been incorporated in the following table. These head parameters are derived from planar layer models simulating the highest expected SAR for the dielectric properties and tissue thickness variations in a human head. Other head and body tissue parameters that have not been specified in P1528 are derived from the tissue dielectric parameters computed from the 4-Cole-Cole equations described in Reference [12] and extrapolated according to the head parameters specified in P1528.

Head Tissue

Frequency (MHz)	cellulose %	DGBE %	HEC %	NaCl %	Preventol %	Sugar %	X100 %	Water %	Conductivity σ	Permittivity ϵ_r
750	0.2	/	/	1.4	0.2	57.0	/	41.1	0.89	41.9
835	0.2	/	/	1.4	0.2	57.9	/	40.3	0.90	41.5
900	0.2	/	/	1.4	0.2	57.9	/	40.3	0.97	41.5
1800	/	44.5	/	0.3	/	/	30.45	55.2	1.4	40.0
1900	/	44.5	/	0.3	/	/	30.45	55.2	1.4	40.0
2000	/	44.5	/	0.3	/	/	/	55.2	1.4	40.0
2450	/	44.9	/	0.1	/	/	/	55.0	1.80	39.2
2600	/	45.0	/	0.1	/	/	/	54.9	1.96	39.0

Body Tissue

Frequency (MHz)	cellulose %	DGBE %	HEC %	NaCl %	Preventol %	Sugar %	X100 %	Water %	Conductivity σ	Permittivity ϵ_r
750	0.2	/	/	0.9	0.1	47.2	/	51.7	0.96	55.5
835	0.2	/	/	0.9	0.1	48.2	/	50.8	0.97	55.2
900	0.2	/	/	0.9	0.1	48.2	/	50.8	1.05	55.0
1800	/	29.4	/	0.4	/	/	30.45	70.2	1.52	53.3
1900	/	29.4	/	0.4	/	/	30.45	70.2	1.52	53.3
2000	/	29.4	/	0.4	/	/	/	70.2	1.52	53.3
2450	/	31.3	/	0.1	/	/	/	68.6	1.95	52.7
2600	/	31.7	/	0.1	/	/	/	68.2	2.16	52.3

Tissue dielectric parameters for head and body phantoms				
Frequency	ϵ_r		σ S/m	
	Head	Body	Head	Body
300	45.3	58.2	0.87	0.92
450	43.5	56.7	0.87	0.94
900	41.5	55.0	0.97	1.05
1450	40.5	54.0	1.20	1.30
1800	40.0	53.3	1.40	1.52
2450	39.2	52.7	1.80	1.95
3000	38.5	52.0	2.40	2.73
5800	35.3	48.2	5.27	6.00

**LIQUID MEASUREMENT RESULTS**

Date	Ambient		Simulating Liquid		Parameters	Target	Measured	Deviation %	Limited %
	Temp. [°C]	Humidity %	Frequency	Temp. [°C]					
2021-03-29	22.7	50	707.5 MHz	22.5	Permittivity	42.13	41.58	-1.30	±5
					Conductivity	0.87	0.86	-1.23	±5
2021-03-29	22.7	50	710 MHz	22.5	Permittivity	42.11	42.76	1.54	±5
					Conductivity	0.87	0.85	-1.92	±5
2021-03-29	22.7	50	750 MHz	22.5	Permittivity	41.9	41.01	-2.12	±5
					Conductivity	0.89	0.88	-1.12	±5
2021-03-29	22.7	50	782 MHz	22.5	Permittivity	41.75	40.18	-3.76	±5
					Conductivity	0.90	0.87	-3.19	±5
2021-05-06	22.5	53	821.5 MHz	22.3	Permittivity	41.56	41.73	0.42	±5
					Conductivity	0.91	0.93	1.72	±5
2021-05-06	22.5	53	831.5 MHz	22.3	Permittivity	41.52	40.23	-3.10	±5
					Conductivity	0.91	0.91	-0.15	±5
2021-05-06	22.5	53	835 MHz	22.3	Permittivity	41.5	41.56	0.14	±5
					Conductivity	0.9	0.93	2.90	±5
2021-05-06	22.5	53	841.5 MHz	22.3	Permittivity	41.5	41.19	-0.74	±5
					Conductivity	0.91	0.90	-1.38	±5
2021-05-06	22.5	53	846.6 MHz	22.3	Permittivity	41.5	42.76	3.04	±5
					Conductivity	0.91	0.91	0.52	±5
2021-05-06	22.5	53	848.31 MHz	22.3	Permittivity	41.5	42.10	1.44	±5
					Conductivity	0.91	0.91	-0.38	±5
2021-05-06	22.5	53	848.8 MHz	22.3	Permittivity	41.5	40.82	-1.65	±5
					Conductivity	0.91	0.94	3.17	±5
2021-03-31	23.4	55	900 MHz	22.5	Permittivity	41.5	40.16	-3.23	±5
					Conductivity	0.97	0.95	-2.06	±5
2021-04-01	22.8	48	1712.6 MHz	22.8	Permittivity	40.12	40.92	1.99	±5
					Conductivity	1.4	1.39	-0.79	±5
2021-04-01	22.8	48	1720 MHz	22.8	Permittivity	40.11	39.49	-1.55	±5
					Conductivity	1.4	1.40	0.07	±5
2021-04-01	22.8	48	1732.5 MHz	22.8	Permittivity	40.1	39.53	-1.41	±5
					Conductivity	1.4	1.39	-0.95	±5
2021-04-01	22.8	48	1740 MHz	22.8	Permittivity	40.1	40.83	1.82	±5
					Conductivity	1.4	1.42	1.13	±5
2021-04-01	22.8	48	1745 MHz	22.8	Permittivity	40.1	38.74	-3.40	±5
					Conductivity	1.4	1.43	1.81	±5
2021-04-01	22.8	48	1752.4 MHz	22.8	Permittivity	40.1	38.97	-2.83	±5
					Conductivity	1.4	1.44	3.11	±5
2021-04-01	22.8	48	1770 MHz	22.8	Permittivity	40	39.85	-0.63	±5
					Conductivity	1.4	1.43	2.14	±5
2021-04-01	22.8	48	1800 MHz	22.8	Permittivity	40	40.88	2.20	±5
					Conductivity	1.4	1.42	1.43	±5



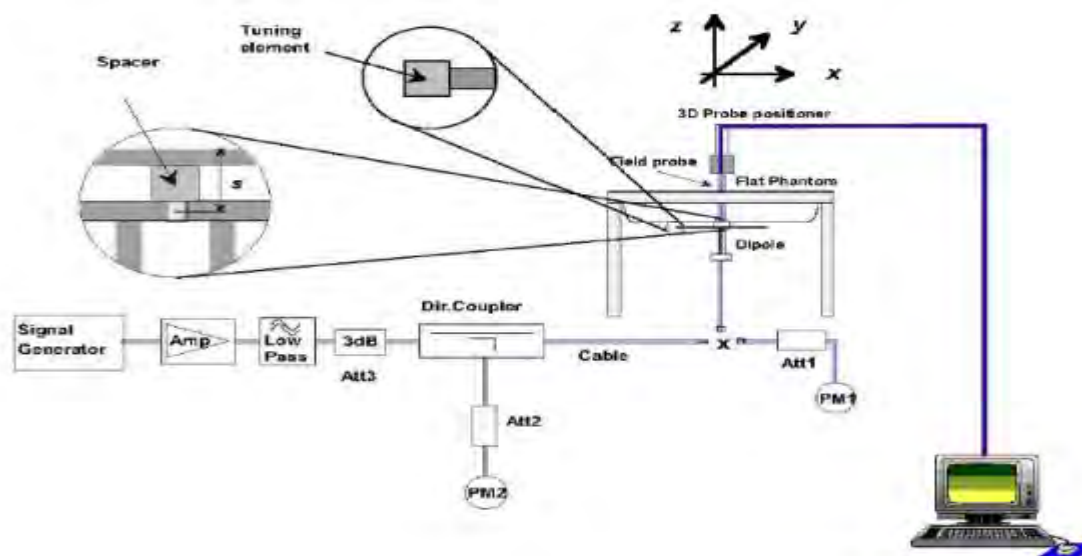
2021-04-01	22.8	48	1850.2 MHz	22.8	Permittivity	40	39.07	-2.33	±5
					Conductivity	1.4	1.42	1.24	±5
2021-04-01	22.8	48	1851.25 MHz	22.8	Permittivity	40	39.81	-0.49	±5
					Conductivity	1.4	1.41	0.94	±5
2021-04-01	22.8	48	1852.4 MHz	22.8	Permittivity	40	40.92	2.30	±5
					Conductivity	1.4	1.41	0.57	±5
2021-04-02	23.2	52	1880 MHz	22.9	Permittivity	40	40.97	2.42	±5
					Conductivity	1.4	1.38	-1.79	±5
2021-04-02	23.2	52	1882.5 MHz	22.9	Permittivity	40	38.08	-4.79	±5
					Conductivity	1.4	1.44	2.78	±5
2021-04-02	23.2	52	1900 MHz	22.9	Permittivity	40	39.16	-2.10	±5
					Conductivity	1.4	1.43	2.14	±5
2021-04-02	23.2	52	1908.75 MHz	22.9	Permittivity	40	39.26	-1.84	±5
					Conductivity	1.4	1.41	0.71	±5
2021-04-02	23.2	52	1909.8 MHz	22.9	Permittivity	40	39.83	-0.43	±5
					Conductivity	1.4	1.37	-1.94	±5
2021-04-06	22.5	47	2310 MHz	23.2	Permittivity	39.4	39.25	-0.38	±5
					Conductivity	1.82	1.79	-1.76	±5
2021-04-06	22.5	47	2437 MHz	23.2	Permittivity	39.2	38.45	-1.91	±5
					Conductivity	1.94	1.94	-0.02	±5
2021-04-06	22.5	47	2450 MHz	23.2	Permittivity	39.2	40.69	3.80	±5
					Conductivity	1.8	1.85	2.78	±5
2021-04-06	22.5	47	2510 MHz	23.2	Permittivity	39.12	40.17	2.68	±5
					Conductivity	1.86	1.87	0.79	±5
2021-04-06	22.5	47	2535 MHz	23.2	Permittivity	39.1	39.02	-0.21	±5
					Conductivity	1.89	1.88	-0.28	±5
2021-04-07	22.8	52	2560 MHz	22.5	Permittivity	39.1	39.63	1.36	±5
					Conductivity	1.92	1.91	-0.60	±5
2021-04-07	22.8	52	2580 MHz	22.5	Permittivity	39	37.99	-2.59	±5
					Conductivity	1.94	1.99	2.35	±5
2021-04-07	22.8	52	2593 MHz	22.5	Permittivity	39	39.06	0.15	±5
					Conductivity	1.95	1.99	2.17	±5
2021-04-07	22.8	52	2595 MHz	22.5	Permittivity	39	39.23	0.59	±5
					Conductivity	1.95	1.92	-1.31	±5
2021-04-07	22.8	52	2600 MHz	22.5	Permittivity	39	40.03	2.64	±5
					Conductivity	1.96	1.91	-2.55	±5
2021-04-07	22.8	52	2610 MHz	22.5	Permittivity	39	38.04	-2.46	±5
					Conductivity	1.97	1.99	0.77	±5

5. SAR System Validation

5.1 Validation System

Each MVG system is equipped with one or more system validation kits. These units, together with the predefined measurement procedures within the MVG software, enable the user to conduct the system performance check and system validation. System kit includes a dipole, and dipole device holder.

The system check verifies that the system operates within its specifications. It's performed daily or before every SAR measurement. The system check uses normal SAR measurement in the flat section of the phantom with a matched dipole at a specified distance. The system validation setup is shown as below.



5.2 Validation Result

Comparing to the original SAR value provided by MVG, the validation data should be within its specification of 10 %.

Date	Freq. (MHz)	Power (mW)	Power drift (%)	Tested Value (W/Kg)	Normalized SAR (W/kg)	Target SAR 10g(W/kg)	Tolerance (%)
2021-03-29	750	100	-0.05	0.851	8.51	8.49	0.24
2021-05-06	835	100	-0.52	0.933	9.33	9.56	-2.41
2021-03-31	900	100	-1.92	1.100	11.00	10.90	0.92
2021-04-01	1800	100	-1.17	3.878	38.78	38.40	0.99
2021-04-02	1900	100	-0.81	3.962	39.62	39.70	-0.20
2021-04-06	2450	100	1.41	5.223	52.23	52.40	-0.32
2021-04-07	2600	100	2.25	5.501	55.01	55.30	-0.52

Note:

1. The tolerance limit of System validation $\pm 10\%$.
2. The dipole input power (forward power) was 100 mW.
3. The results are normalized to 1 W input power.



6. SAR Evaluation Procedures

The procedure for assessing the average SAR value consists of the following steps:

The following steps are used for each test position

- Establish a call with the maximum output power with a base station simulator. The connection between the mobile and the base station simulator is established via air interface
- Measurement of the local E-field value at a fixed location. This value serves as a reference value for calculating a possible power drift.
- Measurement of the SAR distribution with a grid of 8 to 16mm * 8 to 16 mm and a constant distance to the inner surface of the phantom. Since the sensors cannot directly measure at the inner phantom surface, the values between the sensors and the inner phantom surface are extrapolated. With these values the area of the maximum SAR is calculated by an interpolation scheme.
- Around this point, a cube of 30 * 30 * 30 mm or 32 * 32 * 32 mm is assessed by measuring 5 or 8 * 5 or 8*4 or 5 mm. With these data, the peak spatial-average SAR value can be calculated.

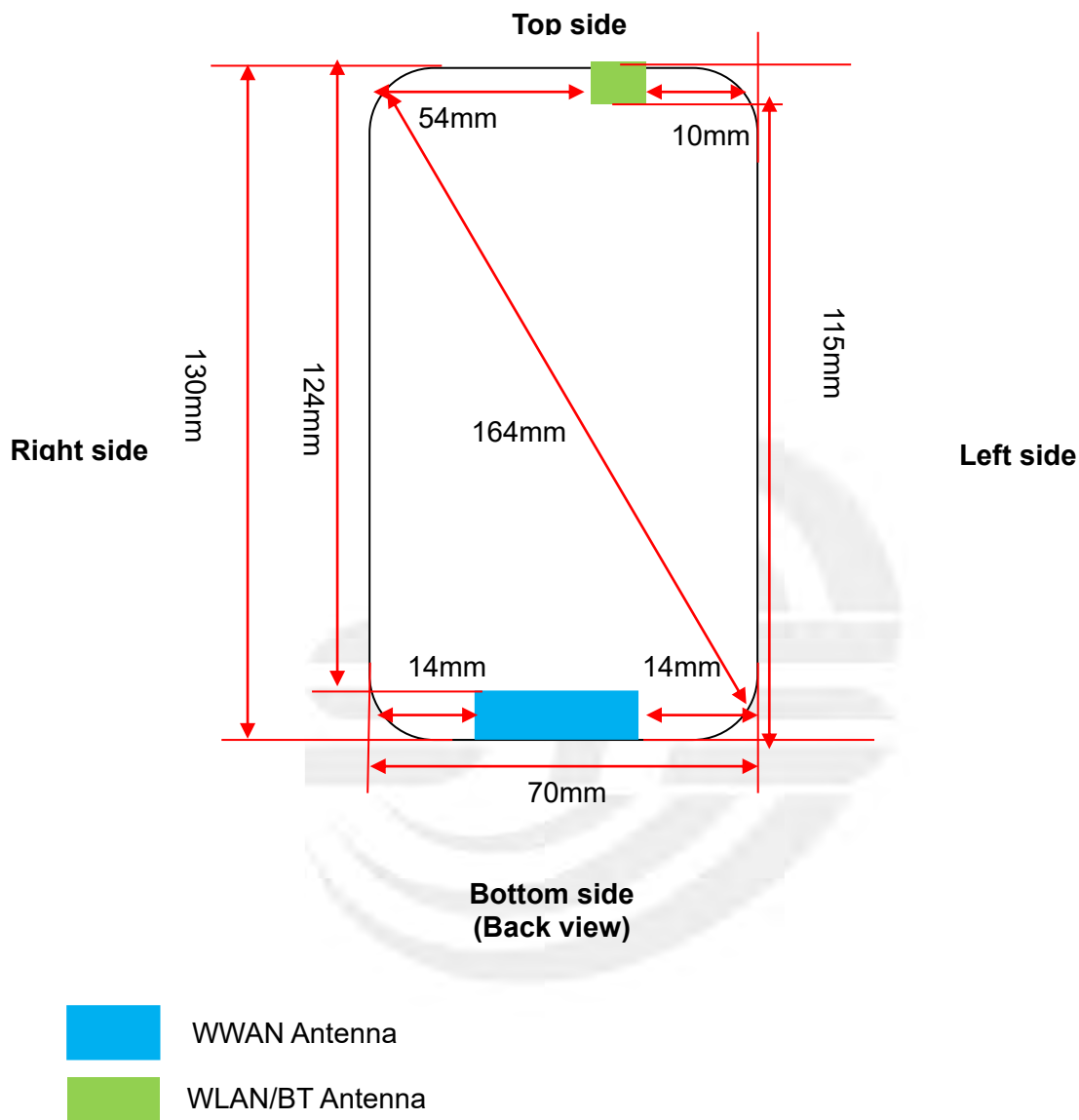
➤ Area Scan& Zoom Scan

First Area Scan is used to locate the approximate location(s) of the local peak SAR value(s). The measurement grid within an Area Scan is defined by the grid extent, grid step size and grid offset. Next, in order to determine the EM field distribution in a three-dimensional spatial extension, Zoom Scan is required. The Zoom Scan is performed around the highest E-field value to determine the averaged SAR-distribution over 10 g. Area scan and zoom scan resolution setting follows KDB 865664 D01 quoted below.

When the 1-g SAR of the highest peak is within 2 dB of the SAR limit, additional zoom scans are required for other peaks within 2 dB of the highest peak that have not been included in any zoom scan to ensure there is no increase in SAR.

7. EUT Antenna Location Sketch

It is a Smart Phone, support GSM/WCDMA/LTE/WLAN/BT mode.



Note 1: The antenna information refer the manufacturer provide report, applicable only to the tested sample identified in the report.



7.1 SAR test exclusion consider table

The WWAN/WLAN/BT SAR evaluation of Maximum power (dBm) summing tolerance.

Exposure Position	Wireless Interface	GSM850	PCS1900	WCDMA II	WCDMA V	WCDMA IV
	Calculated Frequency	848.08	1850.2	1852.4	846.6	1740
	Maximum Turn-up power (dBm)	33	30	23	25	24
	Maximum rated power(mW)	1995.26	1000.00	199.53	316.23	251.19
Back Side	Separation distance (mm)	5	5	5	5	5
	exclusion threshold(mW)	16.29	11.03	11.02	16.30	11.37
	Testing required?	YES	YES	YES	YES	YES
Front Side	Separation distance (mm)	5	5	5	5	5
	exclusion threshold(mW)	16.29	11.03	11.02	16.30	11.37
	Testing required?	YES	YES	YES	YES	YES
Left Edge	Separation distance (mm)	14	14	14	14	14
	exclusion threshold(mW)	45.61	30.88	30.86	45.65	31.84
	Testing required?	YES	YES	YES	YES	YES
Right Edge	Separation distance (mm)	14	14	14	14	14
	exclusion threshold(mW)	45.61	30.88	30.86	45.65	31.84
	Testing required?	YES	YES	YES	YES	YES
Top Edge	Separation distance (mm)	124	124	124	124	124
	exclusion threshold(mW)	581.27	850.28	850.21	580.68	853.71
	Testing required?	YES	YES	NO	NO	NO
Bottom Edge	Separation distance (mm)	5	5	5	5	5
	exclusion threshold(mW)	16.29	11.03	11.02	16.30	11.37
	Testing required?	YES	YES	YES	YES	YES



Exposure Position	Wireless Interface	CDMA BC0	CDMA BC1	LTE Band 2	LTE Band 4
	Calculated Frequency	848.31	1908.75	1880	1732.5
	Maximum Turn-up power (dBm)	27.3	25	22	22.5
	Maximum rated power(mW)	537.03	316.23	158.49	177.83
Back Side	Separation distance (mm)	5	5	5	5
	exclusion threshold(mW)	16.29	10.86	10.94	11.40
	Testing required?	YES	YES	YES	YES
Front Side	Separation distance (mm)	5	5	5	5
	exclusion threshold(mW)	16.29	10.86	10.94	11.40
	Testing required?	YES	YES	YES	YES
Left Edge	Separation distance (mm)	14	14	14	14
	exclusion threshold(mW)	45.60	30.40	30.63	31.91
	Testing required?	YES	YES	YES	YES
Right Edge	Separation distance (mm)	14	14	14	14
	exclusion threshold(mW)	45.60	30.40	30.63	31.91
	Testing required?	YES	YES	YES	YES
Top Edge	Separation distance (mm)	124	124	124	124
	exclusion threshold(mW)	581.36	848.57	849.40	853.96
	Testing required?	NO	NO	NO	NO
Bottom Edge	Separation distance (mm)	5	5	5	5
	exclusion threshold(mW)	16.29	10.86	10.94	11.40
	Testing required?	YES	YES	YES	YES



Exposure Position	Wireless Interface	LTE Band 5	LTE Band 7	LTE Band 12	LTE Band 13
	Calculated Frequency	836.5	2535	707.5	782
	Maximum Turn-up power (dBm)	23	23	24.5	23
	Maximum rated power(mW)	199.53	199.53	281.84	199.53
Back Side	Separation distance (mm)	5	5	5	5
	exclusion threshold(mW)	16.40	9.42	17.83	16.96
	Testing required?	YES	YES	YES	YES
Front Side	Separation distance (mm)	5	5	5	5
	exclusion threshold(mW)	16.40	9.42	17.83	16.96
	Testing required?	YES	YES	YES	YES
Left Edge	Separation distance (mm)	14	14	14	14
	exclusion threshold(mW)	45.92	26.38	49.93	47.49
	Testing required?	YES	YES	YES	YES
Right Edge	Separation distance (mm)	14	14	14	14
	exclusion threshold(mW)	45.92	26.38	49.93	47.49
	Testing required?	YES	YES	YES	YES
Top Edge	Separation distance (mm)	124	124	124	124
	exclusion threshold(mW)	576.68	834.21	527.36	555.41
	Testing required?	NO	NO	NO	NO
Bottom Edge	Separation distance (mm)	5	5	5	5
	exclusion threshold(mW)	16.40	9.42	17.83	16.96
	Testing required?	YES	YES	YES	YES



Exposure Position	Wireless Interface	LTE Band 17	LTE Band 25	LTE Band 26	LTE Band 38
	Calculated Frequency	710	1882.5	831.5	2595
	Maximum Turn-up power (dBm)	23	21.5	24	22.5
	Maximum rated power(mW)	199.53	141.25	251.19	177.83
Back Side	Separation distance (mm)	5	5	5	5
	exclusion threshold(mW)	17.80	10.93	16.45	9.31
	Testing required?	YES	YES	YES	YES
Front Side	Separation distance (mm)	5	5	5	5
	exclusion threshold(mW)	17.80	10.93	16.45	9.31
	Testing required?	YES	YES	YES	YES
Left Edge	Separation distance (mm)	14	14	14	14
	exclusion threshold(mW)	49.84	30.61	46.06	26.07
	Testing required?	YES	YES	YES	YES
Right Edge	Separation distance (mm)	14	14	14	14
	exclusion threshold(mW)	49.84	30.61	46.06	26.07
	Testing required?	YES	YES	YES	YES
Top Edge	Separation distance (mm)	124	124	124	124
	exclusion threshold(mW)	528.28	849.33	574.70	833.12
	Testing required?	NO	NO	NO	NO
Bottom Edge	Separation distance (mm)	5	5	5	5
	exclusion threshold(mW)	17.80	10.93	16.45	9.31
	Testing required?	YES	YES	YES	YES



Exposure Position	Wireless Interface	LTE Band 40	LTE Band 41	LTE Band 66	BT
	Calculated Frequency(MHz)	2310	2593	1745	2441
	Maximum Turn-up power (dBm)	20.5	23	23	7
	Maximum rated power(mW)	112.20	199.53	199.53	5.01
Back Side	Separation distance (mm)	5	5	5	5
	exclusion threshold(mW)	9.87	9.32	11.36	9.60
	Testing required?	YES	YES	YES	NO
Front Side	Separation distance (mm)	5	5	5	5
	exclusion threshold(mW)	9.87	9.32	11.36	9.60
	Testing required?	YES	YES	YES	NO
Left Edge	Separation distance (mm)	14	14	14	10
	exclusion threshold(mW)	27.63	26.08	31.79	19.20
	Testing required?	YES	YES	YES	NO
Right Edge	Separation distance (mm)	14	14	14	52
	exclusion threshold(mW)	27.63	26.08	31.79	116.01
	Testing required?	YES	YES	YES	NO
Top Edge	Separation distance (mm)	124	124	124	5
	exclusion threshold(mW)	838.69	833.15	853.55	9.60
	Testing required?	NO	NO	NO	NO
Bottom Edge	Separation distance (mm)	5	5	5	115
	exclusion threshold(mW)	9.87	9.32	11.36	746.01
	Testing required?	YES	YES	YES	NO



Exposure Position	Wireless Interface	2.4G WLAN	5.2G WLAN	5.3G WLAN	5.6G WLAN	5.8G WLAN
	Calculated Frequency(MHz)	2437	5210	5270	5530	5745
	Maximum Turn-up power (dBm)	12.5	7.5	7.5	7	7
	Maximum rated power(mW)	17.78	5.62	5.62	5.01	5.01
Back Side	Separation distance (mm)	5	5	5	5	5
	exclusion threshold(mW)	9.61	6.57	6.53	6.38	6.26
	Testing required?	YES	NO	NO	NO	NO
Front Side	Separation distance (mm)	5	5	5	5	5
	exclusion threshold(mW)	9.61	6.57	6.53	6.38	6.26
	Testing required?	YES	NO	NO	NO	NO
Left Edge	Separation distance (mm)	10	10	10	10	10
	exclusion threshold(mW)	424.26	424.26	424.26	424.26	424.26
	Testing required?	NO	NO	NO	NO	NO
Right Edge	Separation distance (mm)	52	52	52	52	52
	exclusion threshold(mW)	116.09	85.72	85.34	83.79	82.58
	Testing required?	NO	NO	NO	NO	NO
Top Edge	Separation distance (mm)	5	5	5	5	5
	exclusion threshold(mW)	9.61	6.57	6.53	6.38	6.26
	Testing required?	YES	NO	NO	NO	NO
Bottom Edge	Separation distance (mm)	115	115	115	115	115
	exclusion threshold(mW)	746.09	715.72	715.34	713.79	712.58
	Testing required?	NO	NO	NO	NO	NO

Note:

1. maximum power is the source-based time-average power and represents the maximum RF output power among production units.
2. per KDB 447498 D01, for larger devices, the test separation distance of adjacent edge configuration is determined by the closest separation between the antenna and the user.
3. per KDB 447498 D01, standalone SAR test exclusion threshold is applied; if the distance of the antenna to the user is <25mm, 25mm is used to determine SAR exclusion threshold



4. per KDB 447498 D01, the 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distance $\leq 50\text{mm}$ are determined by:
$$\left[\frac{\text{max.power of channel, including tune-up tolerance, mW}}{\text{min. test separation distance, mm}} \right] \cdot \sqrt{f(\text{GHz})} \leq 3.0$$
 for 1-g SAR and ≤ 7.5 for 10-g extremity SAR, $f(\text{GHz})$ is the RF channel transmit frequency in GHz. Power and distance are rounded to the nearest mW and mm before calculation. The result is rounded to one decimal place for comparison
For $< 50\text{mm}$ distance, we just calculate mW of the exclusion threshold value(3.0) to do compare
5. per KDB 447498 D01, at 100 MHz to 6GHz and for test separation distances $> 50\text{mm}$, the SAR test exclusion threshold is determined according to the following
 - a) [threshold at 50mm in step 1] + (test separation distance - 50mm) * (f (MHz)/150)]mW, at 100 MHz to 1500 MHz
 - b) [threshold at 50mm in step1] + (test separation distance - 50mm) * 10]mW at $> 1500\text{MHz}$ and $\leq 6\text{GHz}$
6. Per KDB 248227 D01, choose the highest output power channel to test SAR and determine further SAR exclusion 8.for each frequency band ,testing at higher data rates and higher order modulations is not required when the maximum average output power for each of each of these configurations is less than 1/4db higher than those measured at the lower data rate than 11b mode ,thus the SAR can be excluded.
7. Per KDB 616217 D04, SAR evaluation for the front surface of tablet display screens are generally not necessary.

8. EUT Test Position

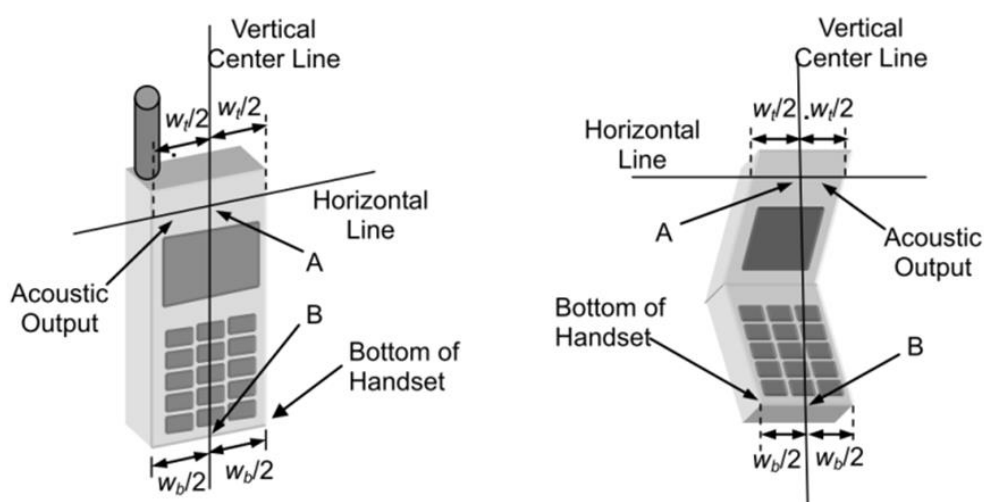
This EUT was tested in Right Cheek, Right Titled, Left Cheek, Left Titled, Front Face and Rear Face.

8.1 Define Two Imaginary Lines on the Handset

(1) The vertical centerline passes through two points on the front side of the handset the midpoint of the width w_t of the handset at the level of the acoustic output, and the midpoint of the width w_b of the handset.

(2) The horizontal line is perpendicular to the vertical centerline and passes through the center of the acoustic output. The horizontal line is also tangential to the face of the handset at point A.

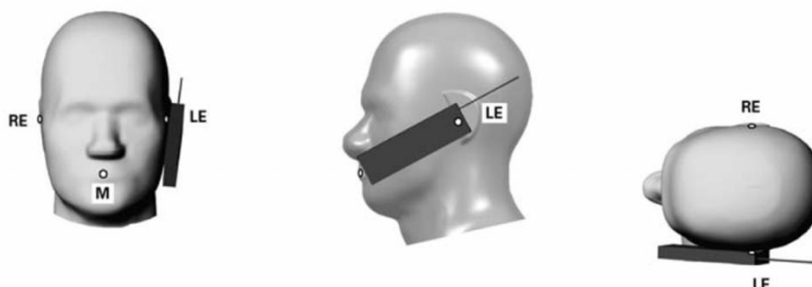
(3) The two lines intersect at point A. Note that for many handsets, point A coincides with the center of the acoustic output; however, the acoustic output may be located elsewhere on the horizontal line. Also note that the vertical centerline is not necessarily to the front face of the handset, especially for clamshell handsets, handsets with flip covers, and other irregularly shaped handsets.



Cheek Position

1) To position the device with the vertical center line of the body of the device and the horizontal line crossing the center piece in a plane parallel to the sagittal plane of the phantom. While maintaining the device in this plane, align the vertical center line with the reference plane containing the ear and mouth reference point (M: Mouth, RE: Right Ear, and LE: Left Ear) and align the center of the ear piece with the line RE-LE.

2) To move the device towards the phantom with the ear piece aligned with the line LE-RE until the phone touched the ear. While maintaining the device in the reference plane and maintaining the phone contact with ear, move the bottom of the phone until any point on the front side is in contact with the cheek of the phantom or until contact with the ear is lost



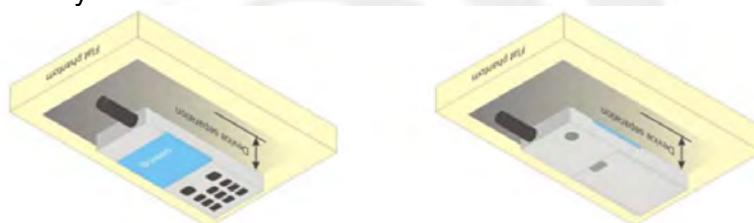
Title Position

- (1) To position the device in the “cheek” position described above.
- (2) While maintaining the device in the reference plane described above and pivoting against the ear, moves it outward away from the mouth by an angle of 15 degrees or until with the ear is lost.



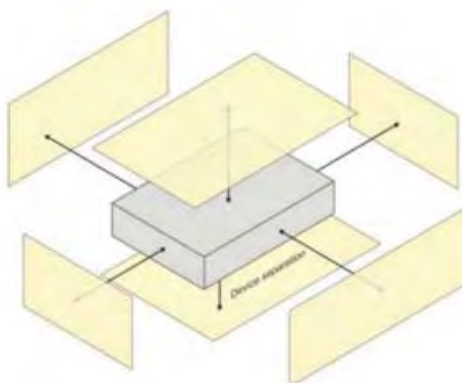
Body-worn Position Conditions:

Body-worn accessory exposure is typically related to voice mode operations when handsets are carried in body-worn accessories. The body-worn accessory procedures in KDB Publication 447498 D01 should be used to test for body-worn accessory SAR compliance, without a headset connected to it. When the same wireless transmission configuration is used for testing body-worn accessory and hotspot mode SAR, respectively, in voice and data mode, SAR results for the most conservative *test separation distance* configuration may be used to support both SAR conditions. When the *reported SAR* for a body-worn accessory, measured without a headset connected to the handset, is $> 1.2 \text{ W/kg}$, the highest *reported SAR* configuration for that wireless mode and frequency band should be repeated for the body-worn accessory with a headset attached to the handset.



8.2 Hotspot mode exposure position condition

For handsets that support hotspot mode operations, with wireless router capabilities and various web browsing function, the relevant hand and body exposure condition are tested according to the hotspot SAR procedures in KDB 941225. A test separation distance of 10 mm is required between the phantom and all surface and edges with a transmitting antenna located within 25 mm from that surface or edge. When form factor of a handset is smaller than 9cm x 5cm, a test separation distance of 5mm (instead of 10mm) is required for testing hotspot mode. When the separate distance required for body-worn accessory testing is larger than or equal to that tested for hotspot mode, in the same wireless mode and for the same surface of the phone, the hotspot mode SAR data may be used to support body-worn accessory SAR compliance for that particular configuration (surface).





9. Uncertainty

9.1 Measurement Uncertainty

The following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in IEEE 1528: 2013. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of $k=2$.

Uncertainty Component	Tol (+/- %)	Prob. Dist.	Div.	Ci (1g)	Ci (10g)	1g Ui (+/-%)	10g Ui (+/-%)	v_i
Measurement System								
Probe calibration	5.831	N	1	1	1	5.83	5.83	∞
Axial Isotropy	0.695	R	$\sqrt{3}$	$\sqrt{0.5}$	$\sqrt{0.5}$	0.28	0.28	∞
Hemispherical Isotropy	1.045	R	$\sqrt{3}$	$\sqrt{0.5}$	$\sqrt{0.5}$	0.43	0.43	∞
Boundary effect	1.0	R	$\sqrt{3}$	1	1	0.58	0.58	∞
Linearity	0.685	R	$\sqrt{3}$	1	1	0.40	0.40	∞
System detection limits	1.0	R	$\sqrt{3}$	1	1	0.58	0.58	∞
Modulation response	3.0	R	$\sqrt{3}$	1	1	1.73	1.73	∞
Readout Electronics	0.021	N	1	1	1	0.021	0.021	∞
Response Time	0	R	$\sqrt{3}$	1	1	0	0	∞
Integration Time	1.4	R	$\sqrt{3}$	1	1	0.81	0.81	∞
RF ambient conditions-Noise	3.0	R	$\sqrt{3}$	1	1	1.73	1.73	∞
RF ambient conditions-reflections	3.0	R	$\sqrt{3}$	1	1	1.73	1.73	∞
Probe positioner mechanical tolerance	1.4	R	$\sqrt{3}$	1	1	0.81	0.81	∞
Probe positioning with respect to phantom shell	1.4	R	$\sqrt{3}$	1	1	0.81	0.81	∞
Post-processing	2.3	R	$\sqrt{3}$	1	1	1.33	1.33	∞
Test sample Related								
Test sample positioning	2.6	N	1	1	1	2.6	2.6	∞
Device holder uncertainty	3	N	1	1	1	3	3	∞
SAR drift measurement	5	R	$\sqrt{3}$	1	1	2.89	2.89	∞
SAR scaling	5	R	$\sqrt{3}$	1	1	2.89	2.89	∞
Phantom and tissue parameters								
Phantom uncertainty (shape and thickness uncertainty)	4	R	$\sqrt{3}$	1	1	2.31	2.31	∞
Uncertainty in SAR correction for deviations in permittivity and conductivity	1.9	N	1	1	0.84	1.90	1.60	∞
Liquid conductivity (temperature uncertainty)	2.5	R	$\sqrt{3}$	0.78	0.71	1.13	1.02	∞
Liquid conductivity (measured)	4	N	1	0.78	0.71	3.12	2.84	M
Liquid permittivity (temperature uncertainty)	2.5	R	$\sqrt{3}$	0.23	0.26	0.33	0.38	∞
Liquid permittivity (measured)	5	N	1	0.23	0.26	1.15	1.30	M
Combined Standard Uncertainty		RSS				9.79	9.59	
Expanded Uncertainty (95% Confidence interval)		K=2				19.58	19.18	



9.2 System validation Uncertainty

Uncertainty Component	Tol (+ - %)	Prob. Dist.	Div.	Ci (1g)	Ci (10g)	1g Ui (+-%)	10g Ui (+-%)	vi
Measurement System								
Probe calibration	5.831	N	1	1	1	5.83	5.83	∞
Axial Isotropy	0.695	R	$\sqrt{3}$	1	1	0.40	0.40	∞
Hemispherical Isotropy	1.045	R	$\sqrt{3}$	0	0	0.00	0.00	∞
Boundary effect	1.0	R	$\sqrt{3}$	1	1	0.58	0.58	∞
Linearity	0.685	R	$\sqrt{3}$	1	1	0.40	0.40	∞
System detection limits	1.0	R	$\sqrt{3}$	1	1	0.58	0.58	∞
Modulation response	3.0	R	$\sqrt{3}$	0	0	0.00	0.00	∞
Readout Electronics	0.021	N	1	1	1	0.021	0.021	∞
Response Time	0.0	R	$\sqrt{3}$	0	0	0.00	0.00	∞
Integration Time	1.4	R	$\sqrt{3}$	0	0	0.00	0.00	∞
RF ambient conditions-Noise	3.0	R	$\sqrt{3}$	1	1	1.73	1.73	∞
RF ambient conditions-reflections	3.0	R	$\sqrt{3}$	1	1	1.73	1.73	∞
Probe positioner mechanical tolerance	1.4	R	$\sqrt{3}$	1	1	0.81	0.81	∞
Probe positioning with respect to phantom shell	1.4	R	$\sqrt{3}$	1	1	0.81	0.81	∞
Post-Processing	2.3	R	$\sqrt{3}$	1	1	1.33	1.33	∞
System validation source								
Deviation of experimental dipole from numerical dipole	5.0	N	1	1	1	5.00	5.00	∞
Input power and SAR drift measurement	5.0	R	$\sqrt{3}$	1	1	2.89	2.89	∞
Other source contribution Uncertainty	2.0	R	$\sqrt{3}$	1	1	1.15	1.15	∞
Phantom and set-up								
Phantom uncertainty (shape and thickness uncertainty)	4.0	R	$\sqrt{3}$	1	1	2.31	2.31	∞
Uncertainty in SAR correction for deviations in permittivity and conductivity	1.9	N	1	1	0.84	1.90	1.60	∞
Liquid conductivity (temperature uncertainty)	2.5	R	$\sqrt{3}$	0.78	0.71	1.13	1.02	∞
Liquid conductivity (measured)	4	N	1	0.78	0.71	3.12	2.84	M
Liquid permittivity (temperature uncertainty)	2.5	R	$\sqrt{3}$	0.23	0.26	0.33	0.38	∞
Liquid permittivity (measured)	5	N	1	0.23	0.26	1.15	1.30	M
Combined Standard Uncertainty		RSS				9.718	9.517	
Expanded Uncertainty (95% Confidence interval)		K=2				19.44	19.04	



10. Conducted Power Measurement

Burst Average Power (dBm)						
Band	GSM 850			PCS 1900		
Channel	128	190	251	512	661	810
Frequency (MHz)	824.2	836.6	848.8	1850.2	1880.0	1909.8
GSM(GMSK, 1-Slot)	32.00	32.22	32.38	29.55	29.44	29.28
GPRS (GMSK, 1-Slot)	32.02	32.24	32.37	29.54	29.45	29.28
GPRS (GMSK, 2-Slot)	31.53	31.80	31.91	29.10	29.04	28.84
GPRS (GMSK, 3-Slot)	31.07	31.34	31.45	28.62	28.63	28.43
GPRS (GMSK, 4-Slot)	30.60	30.93	30.97	28.20	28.14	27.95
EGPRS(8PSK, 1-Slot)	29.23	29.48	29.57	28.68	28.57	28.16
EGPRS(8PSK, 2-Slot)	28.47	28.71	28.82	27.95	27.83	27.40
EGPRS(8PSK, 3-Slot)	27.75	27.94	28.04	27.17	27.11	26.66
EGPRS(8PSK, 4-Slot)	27.01	27.22	27.29	26.44	26.34	25.87
Remark: GPRS, CS4 coding scheme. EGPRS, MCS5 coding scheme. Multi-Slot Class 8, Support Max 4 downlink, 1 uplink, 5 working link Multi-Slot Class 10, Support Max 4 downlink, 2 uplink, 5 working link Multi-Slot Class 12, Support Max 4 downlink, 4 uplink, 5 working link						

Fram- Average Power(dBm)						
Band	GSM 850			PCS 1900		
Channel	128	190	251	512	661	810
Frequency (MHz)	824.2	836.6	848.8	1850.2	1880.0	1909.8
GSM(GMSK, 1-Slot)	22.97	23.19	23.35	20.52	20.41	20.25
GPRS (GMSK, 1-Slot)	22.99	23.21	23.34	20.51	20.42	20.25
GPRS (GMSK, 2-Slot)	25.51	25.78	25.89	23.08	23.02	22.82
GPRS (GMSK, 3-Slot)	26.81	27.08	27.19	24.36	24.37	24.17
GPRS (GMSK, 4-Slot)	27.59	27.92	27.96	25.19	25.13	24.94
EGPRS(8PSK, 1-Slot)	20.20	20.45	20.54	19.65	19.54	19.13
EGPRS(8PSK, 2-Slot)	22.45	22.69	22.80	21.93	21.81	21.38
EGPRS(8PSK, 3-Slot)	23.49	23.68	23.78	22.91	22.85	22.40
EGPRS(8PSK, 4-Slot)	24.00	24.21	24.28	23.43	23.33	22.86
Remark : 1. SAR testing was performed on the maximum frame-averaged power mode. 2. The frame-averaged power is linearly proportion to the slot number configured and it is linearly scaled the maximum Burst - averaged power based on time slots. The calculated method is shown as below: Frame-averaged power = Burst averaged power (1 TX Slot) – 9.03 dB Frame-averaged power = Burst averaged power (2 TX Slots) – 6.02 dB Frame-averaged power = Burst averaged power (3 TX Slots) - 4.26 dB Frame-averaged power = Burst averaged power (4 TX Slots) – 3.01 dB						

**WCDMA**

Band	WCDMA Band II			WCDMA Band V			WCDMA Band IV		
Channel	9262	9400	9538	4132	4183	4233	1312	1413	1513
Frequency (MHz)	1852.4	1880	1907.6	826.4	836.6	846.6	1712.6	1740	1752.4
RMC 12.2Kbps	22.85	22.71	22.20	23.46	23.46	24.52	23.11	23.67	23.61
HSDPA Subtest-1	22.82	22.47	21.94	23.08	23.71	24.51	22.94	23.25	23.50
HSDPA Subtest-2	22.37	22.00	21.54	22.60	23.29	24.08	22.48	22.79	23.08
HSDPA Subtest-3	21.87	21.52	21.05	22.25	22.83	23.65	22.10	22.38	22.69
HSDPA Subtest-4	21.38	21.14	20.64	21.92	22.50	23.21	21.66	22.04	22.28
HSUPA Subtest-1	22.84	22.50	22.26	23.10	23.70	24.02	22.88	22.97	23.25
HSUPA Subtest-2	21.86	21.57	21.34	22.10	22.75	23.03	22.07	22.03	22.25
HSUPA Subtest-3	21.69	21.16	20.96	22.05	22.32	22.65	22.04	21.54	21.90
HSUPA Subtest-4	21.21	20.70	20.58	21.57	21.97	22.20	21.71	21.09	21.45
HSUPA Subtest-5	19.76	19.28	19.12	20.08	20.49	20.75	20.30	19.62	20.04

According to 3GPP 25.101 sub-clause 6.2.2, the maximum output power is allowed to be reduced by following the table.

Table 6.1A: UE maximum output power with HS-DPCCH and E-DCH

UE Transmit Channel Configuration	CM(db)	MPR(db)
For all combinations of ,DPDCH,DPCCH HS-DPDCH,E-DPDCH and E-DPCCH	$0 \leq CM \leq 3.5$	MAX(CM-1,0)
Note: CM=1 for $\beta_c/\beta_d=12/15$, $\beta_{hs}/\beta_c=24/15$.For all other combinations of DPDCH, DPCCH, HS-DPCCH, E-DPDCH and E-DPCCH the MPR is based on the relative CM difference.		

The device supports MPR to solve linearity issues (ACLR or SEM) due to the higher peak-to average ratios (PAR) of the HSUPA signal. This prevents saturating the full range of the TX DAC inside of device and provides a reduced power output to the RF transceiver chip according to the Cubic Metric (a function of the combinations of DPDCH, DPCCH, HS-DPCCH, E-DPDCH and E-DPCCH).

When E-DPDCH channels are present the beta gains on those channels are reduced firsts to try to get the power under the allowed limit. If the beta gains are lowered as far as possible, then a hard limiting is applied at the maximum allowed level.

The SW currently recalculates the cubic metric every time the beta gains on the E-DPDCH are reduced. The cubic metric will likely get lower each time this is done .However, there is no reported reduction of maximum output power in the HSUPA mode since the device also provides a compensation for the power back-off by increasing the gain of TX_AGC in the transceiver (PA) device.

The end effect is that the DUT output power is identical to the case where there is no MPR in the device.

**CDMA**

CDMA BC0		
Mode	Frequency(MHz)	AVG Power
CDMA BC0	824.7	25.39
	836.52	26.74
	848.31	27.29
EVDO BC0	824.7	25.33
	836.52	26.37
	848.31	26.31

CDMA BC1		
Mode	Frequency(MHz)	AVG Power
CDMA BC1	1851.25	24.44
	1880	24.70
	1908.75	24.79
EVDO BC1	1851.25	24.10
	1880	24.23
	1908.75	24.47

2.4G WLAN

Mode	Channel Number	Frequency (MHz)	Average Power (dBm)
802.11b	1	2412	10.84
	6	2437	12.19
	11	2462	12.17
802.11g	1	2412	5.14
	6	2437	6.55
	11	2462	6.35
802.11n(HT 20)	1	2412	5.03
	6	2437	6.30
	11	2462	6.27
802.11n(HT 40)	3	2422	5.42
	6	2437	5.90
	9	2452	6.32

**Bluetooth**

Mode	Channel Number	Frequency (MHz)	Average Power (dBm)
GFSK(1Mbps)	0	2402	4.99
	39	2441	6.85
	78	2480	6.37
$\pi/4$ -DQPSK(2Mbps)	0	2402	3.70
	39	2441	5.39
	78	2480	4.46
8DPSK(3Mbps)	0	2402	3.75
	39	2441	5.34
	78	2480	4.37

BLE

Mode	Channel Number	Frequency (MHz)	Average Power (dBm)
GFSK(1Mbps)	0	2402	-2.49
	19	2440	0.23
	39	2480	-0.07

WLAN (5.2Gband)

Mode	Channel Number	Frequency (MHz)	Output Power (dBm)
802.11a20	36	5180	5.76
	40	5200	5.80
	48	5240	5.66
802.11 n-HT20	36	5180	7.05
	40	5200	7.00
	48	5240	6.98
802.11 n-HT40	38	5190	6.52
	46	5230	7.02
802.11ac-VHT20	36	5180	6.28
	40	5200	6.84
	48	5240	5.99
802.11ac-VHT40	38	5190	6.96
	46	5230	6.99
802.11ac-VHT80	42	5210	7.23

**WLAN (5.3Gband)**

Mode	Channel Number	Frequency (MHz)	Output Power (dBm)
802.11a20	52	5260	5.46
	60	5300	5.51
	64	5320	5.43
802.11 n-HT20	52	5260	5.49
	60	5300	5.55
	64	5320	5.38
802.11 n-HT40	54	5270	6.83
	62	5310	6.96
802.11ac-VHT20	52	5260	5.42
	60	5300	5.42
	64	5320	5.37
802.11ac-VHT40	54	5270	7.10
	62	5310	6.96
802.11ac-VHT80	58	5290	7.01

WLAN (5.6Gband)

Mode	Channel Number	Frequency (MHz)	Output Power (dBm)
802.11a20	100	5500	5.72
	116	5580	5.01
	140	5700	1.45
802.11 n-HT20	100	5500	5.57
	116	5580	4.86
	140	5700	1.36
802.11 n-HT40	102	5510	5.47
	110	5550	4.51
	134	5670	2.14
802.11ac-VHT20	100	5500	5.49
	116	5580	4.93
	140	5700	2.13
802.11ac-VHT40	102	5510	5.43
	110	5550	4.83
	134	5670	2.16
802.11ac-VHT80	106	5530	6.60
	122	5610	5.71

**WLAN (5.8Gband)**

Mode	Channel Number	Frequency (MHz)	Output Power (dBm)
802.11a20	149	5745	6.46
	157	5785	5.78
	165	5825	5.60
802.11 n-HT20	149	5745	6.35
	157	5785	5.43
	165	5825	5.53
802.11 n-HT40	151	5755	5.17
	159	5795	3.56
802.11ac-VHT20	149	5745	6.07
	157	5785	4.20
	165	5825	3.91
802.11ac-VHT40	151	5755	5.15
	159	5795	3.57
802.11ac-VHT80	155	5775	5.42



LTE Conducted Power

General Note:

1. Anritsu CMW500 base station simulator was used to setup the connection with EUT; the frequency band, channel bandwidth, RB allocation configuration, modulation type are set in the base station simulator to configure EUT transmitting at maximum power and at different configurations which are requested to be reported to FCC, for conducted power measurement and SAR testing.
2. Per KDB 941225 D05, when a properly configured base station simulator is used for the SAR and power measurements, spectrum plots for each RB allocation and offset configuration is not required.
3. Per KDB 941225 D05, start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel.
4. Per KDB 941225 D05, 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure.
5. Per KDB 941225 D05, For QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested.
6. Per KDB 941225 D05, 16QAM output power for each RB allocation configuration is $> \text{not } \frac{1}{2}$ dB higher than the same configuration in QPSK and the reported SAR for the QPSK configuration is ≤ 1.45 W/kg; Per KDB 941225 D05, 16QAM SAR testing is not required.
7. Per KDB 941225 D05, Smaller bandwidth output power for each RB allocation configuration is $> \text{not } \frac{1}{2}$ dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is ≤ 1.45 W/kg; Per KDB 941225 D05, smaller bandwidth SAR testing is not required.



LTE Band 2

LTE Band 2 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
1.4	1	0	QPSK	21.50	21.33	21.42
1.4	1	2		21.29	21.03	21.19
1.4	1	5		21.09	20.80	20.92
1.4	3	0		20.88	20.51	20.65
1.4	3	1		20.59	20.23	20.43
1.4	3	3		20.34	20.02	20.19
1.4	6	0		20.09	19.75	19.94
1.4	1	0	16-QAM	21.23	21.12	21.13
1.4	1	2		20.96	20.85	20.90
1.4	1	5		20.72	20.59	20.60
1.4	3	0		20.43	20.34	20.30
1.4	3	1		20.22	20.10	20.02
1.4	3	3		20.00	19.84	19.82
1.4	6	0		19.71	19.62	19.54
3	1	0	QPSK	21.34	21.37	21.40
3	1	7		21.09	21.07	21.19
3	1	14		20.88	20.80	20.96
3	8	0		20.65	20.52	20.71
3	8	3		20.41	20.27	20.48
3	8	7		20.21	20.00	20.23
3	15	0		19.97	19.72	20.01
3	1	0	16-QAM	21.08	21.17	21.17
3	1	7		20.85	20.95	20.94
3	1	14		20.62	20.72	20.66
3	8	0		20.36	20.43	20.44
3	8	3		20.14	20.17	20.23
3	8	7		19.91	19.88	19.99
3	15	0		19.62	19.60	19.70



LTE BAND 2

LTE Band 2 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	21.36	21.55	21.29
5	1	12		21.07	21.32	21.02
5	1	24		20.81	21.08	20.76
5	12	0		20.56	20.86	20.53
5	12	6		20.29	20.61	20.28
5	12	13		20.00	20.32	19.99
5	25	0		19.79	20.03	19.70
5	1	0	16-QAM	21.14	21.32	21.06
5	1	12		20.90	21.05	20.84
5	1	24		20.61	20.85	20.55
5	12	0		20.34	20.55	20.29
5	12	6		20.12	20.29	20.01
5	12	13		19.89	20.02	19.75
5	25	0		19.62	19.74	19.48
10	1	0	QPSK	21.47	21.61	21.38
10	1	24		21.22	21.34	21.13
10	1	49		20.99	21.07	20.92
10	25	0		20.72	20.83	20.70
10	25	12		20.45	20.60	20.41
10	25	25		20.18	20.31	20.15
10	50	0		19.91	20.06	19.90
10	1	0	16-QAM	21.25	21.40	21.08
10	1	24		21.02	21.11	20.84
10	1	49		20.81	20.88	20.60
10	25	0		20.56	20.59	20.34
10	25	12		20.26	20.36	20.07
10	25	25		20.05	20.08	19.80
10	50	0		19.76	19.81	19.55



LTE BAND 2

LTE Band 2 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
15	1	0	QPSK	21.67	21.51	21.66
15	1	37		21.46	21.24	21.39
15	1	74		21.18	20.99	21.19
15	36	0		20.97	20.74	20.93
15	36	18		20.73	20.53	20.73
15	36	39		20.52	20.32	20.50
15	75	0		20.31	20.08	20.22
15	1	0	16-QAM	21.45	21.28	21.45
15	1	38		21.17	21.05	21.23
15	1	74		20.92	20.77	21.03
15	36	0		20.72	20.51	20.82
15	36	18		20.46	20.29	20.60
15	36	39		20.22	20.02	20.35
15	75	0		19.94	19.77	20.06
20	1	0	QPSK	21.48	21.84	21.54
20	1	50		21.23	21.62	21.29
20	1	99		20.94	21.41	21.07
20	50	0		20.73	21.18	20.81
20	50	25		20.52	20.90	20.54
20	50	50		20.28	20.65	20.24
20	100	0		20.07	20.40	19.99
20	1	0	16-QAM	21.20	21.60	21.32
20	1	50		21.00	21.40	21.02
20	1	99		20.72	21.10	20.75
20	50	0		20.47	20.89	20.53
20	50	25		20.22	20.66	20.24
20	50	50		19.99	20.42	20.00
20	100	0		19.72	20.17	19.77



LTE BAND 4

LTE Band 4 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
1.4	1	0	QPSK	22.11	22.35	22.17
1.4	1	2		21.84	22.07	21.89
1.4	1	5		21.56	21.80	21.62
1.4	3	0		21.32	21.56	21.36
1.4	3	1		21.03	21.33	21.06
1.4	3	3		20.81	21.06	20.79
1.4	6	0		20.59	20.78	20.53
1.4	1	0	16-QAM	21.84	22.10	21.90
1.4	1	2		21.63	21.88	21.63
1.4	1	5		21.34	21.66	21.36
1.4	3	0		21.08	21.45	21.08
1.4	3	1		20.88	21.22	20.85
1.4	3	3		20.66	20.98	20.56
1.4	6	0		20.37	20.69	20.36
3	1	0	QPSK	22.24	22.13	22.25
3	1	7		21.97	21.88	22.01
3	1	14		21.71	21.65	21.79
3	8	0		21.46	21.36	21.54
3	8	3		21.20	21.10	21.31
3	8	7		20.92	20.88	21.03
3	15	0		20.70	20.61	20.74
3	1	0	16-QAM	22.03	21.92	21.98
3	1	7		21.80	21.68	21.75
3	1	14		21.58	21.46	21.47
3	8	0		21.32	21.20	21.24
3	8	4		21.11	20.97	20.96
3	8	7		20.84	20.75	20.75
3	15	0		20.57	20.49	20.46



LTE BAND 4

LTE Band 4 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	22.12	22.27	22.31
5	1	12		21.89	22.06	22.08
5	1	24		21.67	21.79	21.88
5	12	0		21.38	21.56	21.65
5	12	6		21.17	21.34	21.42
5	12	13		20.94	21.08	21.13
5	25	0		20.72	20.88	20.91
5	1	0	16-QAM	21.85	22.00	22.02
5	1	12		21.61	21.74	21.81
5	1	24		21.36	21.53	21.60
5	12	0		21.15	21.27	21.39
5	12	6		20.86	21.05	21.19
5	12	13		20.59	20.76	20.89
5	25	0		20.37	20.48	20.64
10	1	0	QPSK	22.10	22.07	22.17
10	1	24		21.87	21.82	21.90
10	1	49		21.62	21.52	21.65
10	25	0		21.37	21.27	21.38
10	25	12		21.15	21.07	21.17
10	25	25		20.91	20.80	20.94
10	50	0		20.70	20.59	20.69
10	1	0	16-QAM	21.86	21.79	21.88
10	1	24		21.64	21.57	21.61
10	1	49		21.37	21.34	21.31
10	25	0		21.10	21.04	21.05
10	25	12		20.89	20.82	20.78
10	25	25		20.66	20.55	20.57
10	50	0		20.45	20.35	20.29



LTE BAND 4

LTE Band 4 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
15	1	0	QPSK	22.11	22.34	22.29
15	1	37		21.83	22.13	22.02
15	1	74		21.54	21.90	21.73
15	36	0		21.26	21.68	21.49
15	36	19		21.02	21.41	21.25
15	36	39		20.81	21.15	21.05
15	75	0		20.56	20.85	20.81
15	1	0	16-QAM	21.87	22.06	22.04
15	1	38		21.66	21.76	21.74
15	1	75		21.42	21.49	21.48
15	36	0		21.12	21.19	21.23
15	36	19		20.88	20.90	21.00
15	36	39		20.61	20.69	20.74
15	75	0		20.33	20.40	20.47
20	1	0	QPSK	22.17	22.40	22.14
20	1	50		21.96	22.16	21.94
20	1	99		21.71	21.96	21.69
20	50	0		21.45	21.70	21.48
20	50	25		21.15	21.42	21.27
20	50	50		20.93	21.16	20.98
20	100	0		20.69	20.91	20.72
20	1	0	16-QAM	21.92	22.16	21.88
20	1	50		21.69	21.93	21.64
20	1	99		21.42	21.67	21.38
20	50	0		21.19	21.41	21.09
20	50	25		20.92	21.12	20.86
20	50	50		20.72	20.86	20.64
20	100	0		20.43	20.66	20.38



LTE BAND 5

LTE Band 5 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
1.4	1	0	QPSK	22.48	22.37	22.50
1.4	1	2		22.21	22.17	22.22
1.4	1	5		21.96	21.94	21.92
1.4	3	0		21.68	21.66	21.62
1.4	3	1		21.48	21.43	21.33
1.4	3	2		21.21	21.18	21.11
1.4	6	0		20.92	20.94	20.83
1.4	1	0	16-QAM	22.21	22.11	22.27
1.4	1	2		21.97	21.86	22.06
1.4	1	5		21.71	21.64	21.76
1.4	3	0		21.48	21.43	21.49
1.4	3	1		21.20	21.21	21.25
1.4	3	2		20.90	20.94	20.97
1.4	6	0		20.65	20.66	20.69
3	1	0	QPSK	22.54	22.38	22.50
3	1	7		22.25	22.10	22.24
3	1	14		22.01	21.84	21.99
3	8	0		21.75	21.57	21.74
3	8	4		21.46	21.30	21.48
3	8	7		21.21	21.02	21.20
3	15	0		20.99	20.75	20.95
3	1	0	16-QAM	22.28	22.11	22.24
3	1	7		22.01	21.82	22.01
3	1	14		21.77	21.58	21.75
3	8	0		21.54	21.38	21.46
3	8	4		21.32	21.09	21.24
3	8	7		21.08	20.87	21.00
3	15	0		20.87	20.61	20.70



LTE BAND 5

LTE Band 5 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	22.45	22.60	22.37
5	1	12		22.20	22.32	22.08
5	1	24		21.94	22.07	21.80
5	12	0		21.72	21.79	21.54
5	12	6		21.44	21.52	21.24
5	12	11		21.20	21.28	21.01
5	25	0		20.95	21.01	20.73
5	1	0	16-QAM	22.20	22.34	22.10
5	1	12		21.94	22.12	21.89
5	1	24		21.67	21.82	21.64
5	12	0		21.43	21.55	21.35
5	12	6		21.14	21.33	21.09
5	12	11		20.88	21.07	20.89
5	25	0		20.65	20.84	20.61
10	1	0	QPSK	22.14	22.75	22.38
10	1	24		21.91	22.52	22.15
10	1	49		21.62	22.28	21.85
10	25	0		21.37	22.02	21.58
10	25	12		21.11	21.77	21.33
10	25	24		20.85	21.54	21.12
10	50	0		20.61	21.27	20.84
10	1	0	16-QAM	21.93	22.54	22.12
10	1	24		21.69	22.33	21.90
10	1	49		21.49	22.08	21.66
10	25	0		21.27	21.86	21.37
10	25	12		21.00	21.63	21.09
10	25	24		20.79	21.34	20.82
10	50	0		20.50	21.08	20.53



LTE BAND 7

LTE Band 7 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	22.19	22.60	22.54
5	1	12		21.98	22.32	22.26
5	1	24		21.71	22.05	22.02
5	12	0		21.50	21.80	21.80
5	12	6		21.25	21.56	21.54
5	12	11		21.01	21.27	21.26
5	25	0		20.80	21.07	21.05
5	1	0	16-QAM	21.94	22.33	22.30
5	1	12		21.66	22.07	22.02
5	1	24		21.42	21.79	21.78
5	12	0		21.17	21.54	21.51
5	12	6		20.87	21.29	21.29
5	12	11		20.65	21.02	21.05
5	25	0		20.38	20.72	20.85
10	1	0	QPSK	22.47	22.61	22.38
10	1	24		22.26	22.37	22.11
10	1	49		22.02	22.07	21.81
10	25	0		21.82	21.78	21.56
10	25	12		21.53	21.51	21.35
10	25	24		21.30	21.26	21.06
10	50	0		21.04	21.01	20.77
10	1	0	16-QAM	22.26	22.37	22.16
10	1	24		22.02	22.16	21.93
10	1	49		21.78	21.94	21.64
10	25	0		21.56	21.69	21.39
10	25	12		21.28	21.43	21.10
10	25	24		21.07	21.16	20.88
10	50	0		20.82	20.92	20.60



LTE Band 7 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
15	1	0	QPSK	22.19	22.50	22.47
15	1	37		21.95	22.27	22.25
15	1	74		21.74	21.97	21.98
15	36	0		21.44	21.69	21.77
15	36	18		21.17	21.44	21.55
15	36	39		20.97	21.24	21.30
15	75	0		20.68	20.95	21.01
15	1	0	16-QAM	21.97	22.27	22.26
15	1	38		21.73	22.01	22.01
15	1	75		21.51	21.80	21.80
15	36	0		21.31	21.56	21.51
15	36	18		21.05	21.35	21.25
15	36	39		20.76	21.06	21.05
15	75	0		20.51	20.84	20.80
20	1	0	QPSK	22.20	22.85	22.54
20	1	49		21.96	22.57	22.27
20	1	99		21.75	22.32	21.98
20	50	0		21.48	22.03	21.70
20	50	24		21.28	21.80	21.44
20	50	49		21.07	21.54	21.22
20	100	0		20.83	21.28	20.94
20	1	0	16-QAM	21.98	22.55	22.25
20	1	49		21.73	22.28	22.01
20	1	99		21.45	22.04	21.75
20	50	0		21.22	21.80	21.53
20	50	24		20.98	21.50	21.27
20	50	49		20.77	21.30	20.98
20	100	0		20.55	21.00	20.70



LTE BAND 12

LTE Band 12 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
1.4	1	0	QPSK	23.57	23.84	23.61
1.4	1	2		23.30	23.64	23.40
1.4	1	5		23.09	23.43	23.14
1.4	3	0		22.81	23.14	22.85
1.4	3	1		22.60	22.85	22.62
1.4	3	2		22.32	22.57	22.40
1.4	6	0		22.04	22.35	22.16
1.4	1	0	16-QAM	23.33	23.55	23.41
1.4	1	2		23.11	23.26	23.20
1.4	1	5		22.82	23.04	22.99
1.4	3	0		22.60	22.80	22.79
1.4	3	1		22.35	22.50	22.55
1.4	3	2		22.15	22.22	22.34
1.4	6	0		21.93	21.93	22.05
3	1	0	QPSK	23.84	23.59	23.44
3	1	7		23.64	23.31	23.22
3	1	14		23.39	23.04	23.01
3	8	0		23.11	22.83	22.76
3	8	4		22.89	22.60	22.48
3	8	7		22.67	22.40	22.22
3	15	0		22.39	22.19	21.93
3	1	0	16-QAM	23.57	23.29	23.17
3	1	7		23.29	23.00	22.96
3	1	14		23.08	22.79	22.73
3	8	0		22.82	22.49	22.48
3	8	4		22.59	22.20	22.27
3	8	7		22.36	21.98	22.03
3	15	0		22.08	21.77	21.83



LTE BAND 12

LTE Band 12 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	23.49	23.84	23.57
5	1	12		23.21	23.54	23.33
5	1	24		22.92	23.26	23.06
5	12	0		22.70	23.03	22.85
5	12	6		22.45	22.82	22.62
5	12	11		22.22	22.53	22.40
5	25	0		22.02	22.27	22.15
5	1	0	16-QAM	23.23	23.62	23.28
5	1	12		22.94	23.42	23.07
5	1	24		22.70	23.20	22.77
5	12	0		22.49	22.93	22.52
5	12	6		22.28	22.68	22.31
5	12	11		22.03	22.41	22.04
5	25	0		21.77	22.20	21.74
10	1	0	QPSK	23.84	24.20	23.97
10	1	24		23.64	23.90	23.71
10	1	49		23.37	23.65	23.42
10	25	0		23.13	23.36	23.19
10	25	12		22.90	23.09	22.91
10	25	24		22.64	22.80	22.65
10	50	0		22.40	22.60	22.38
10	1	0	16-QAM	23.62	23.91	23.77
10	1	24		23.41	23.71	23.49
10	1	49		23.19	23.45	23.22
10	25	0		22.94	23.20	22.99
10	25	12		22.72	22.94	22.71
10	25	24		22.45	22.65	22.48
10	50	0		22.23	22.41	22.27



LTE BAND 13

LTE Band 13 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	22.48	22.50	22.49
5	1	12		22.28	22.27	22.22
5	1	24		21.98	22.02	21.98
5	12	0		21.74	21.72	21.75
5	12	6		21.45	21.48	21.47
5	12	11		21.17	21.18	21.25
5	25	0		20.94	20.97	20.99
5	1	0	16-QAM	22.27	22.27	22.25
5	1	12		21.98	22.06	21.97
5	1	24		21.72	21.82	21.73
5	12	0		21.46	21.62	21.46
5	12	6		21.21	21.38	21.25
5	12	11		20.91	21.14	21.04
5	25	0		20.63	20.90	20.75
10	1	0	QPSK	N/A	22.72	N/A
10	1	24		N/A	22.42	N/A
10	1	49		N/A	22.18	N/A
10	25	0		N/A	21.96	N/A
10	25	12		N/A	21.71	N/A
10	25	24		N/A	21.45	N/A
10	50	0		N/A	21.15	N/A
10	1	0	16-QAM	N/A	22.42	N/A
10	1	24		N/A	22.13	N/A
10	1	49		N/A	21.93	N/A
10	25	0		N/A	21.65	N/A
10	25	12		N/A	21.43	N/A
10	25	24		N/A	21.22	N/A
10	50	0		N/A	20.93	N/A



LTE BAND 17

LTE Band 17 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	22.37	22.28	22.34
5	1	12		22.16	22.05	22.13
5	1	24		21.92	21.81	21.92
5	12	0		21.68	21.57	21.65
5	12	6		21.38	21.29	21.40
5	12	11		21.13	21.07	21.12
5	25	0		20.87	20.82	20.83
5	1	0	16-QAM	22.08	22.01	22.08
5	1	12		21.81	21.71	21.80
5	1	24		21.54	21.47	21.53
5	12	0		21.29	21.20	21.29
5	12	6		21.09	20.96	21.05
5	12	11		20.80	20.75	20.80
5	25	0		20.51	20.46	20.57
10	1	0	QPSK	22.48	22.74	22.42
10	1	24		22.27	22.54	22.17
10	1	49		21.99	22.33	21.94
10	25	0		21.70	22.10	21.70
10	25	12		21.47	21.88	21.47
10	25	24		21.17	21.66	21.24
10	50	0		20.90	21.37	20.94
10	1	0	16-QAM	22.20	22.54	22.21
10	1	24		21.92	22.26	21.97
10	1	49		21.67	22.06	21.73
10	25	0		21.44	21.84	21.47
10	25	12		21.22	21.63	21.23
10	25	24		20.98	21.36	21.03
10	50	0		20.74	21.09	20.74



LTE BAND 25

LTE Band 25 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
1.4	1	0	QPSK	20.59	20.38	20.67
1.4	1	2		20.39	20.08	20.38
1.4	1	5		20.12	19.87	20.09
1.4	3	0		19.83	19.57	19.88
1.4	3	1		19.55	19.29	19.66
1.4	3	2		19.35	19.04	19.43
1.4	6	0		19.06	18.78	19.19
1.4	1	0	16-QAM	20.38	20.12	20.40
1.4	1	2		20.12	19.83	20.15
1.4	1	5		19.84	19.62	19.94
1.4	3	0		19.59	19.38	19.68
1.4	3	1		19.34	19.11	19.44
1.4	3	2		19.06	18.90	19.15
1.4	6	0		18.79	18.67	18.87
3	1	0	QPSK	20.56	20.76	20.86
3	1	7		20.31	20.52	20.61
3	1	14		20.02	20.23	20.36
3	8	0		19.80	19.94	20.07
3	8	4		19.56	19.68	19.85
3	8	7		19.35	19.44	19.60
3	15	0		19.12	19.18	19.35
3	1	0	16-QAM	20.29	20.50	20.66
3	1	7		20.06	20.29	20.46
3	1	14		19.78	20.00	20.22
3	8	0		19.56	19.76	19.95
3	8	4		19.30	19.50	19.68
3	8	7		19.08	19.29	19.47
3	15	0		18.78	19.01	19.18



LTE Band 25 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	20.94	20.87	20.99
5	1	12		20.65	20.65	20.76
5	1	24		20.40	20.36	20.56
5	12	0		20.11	20.14	20.35
5	12	6		19.85	19.84	20.13
5	12	11		19.64	19.58	19.85
5	25	0		19.40	19.34	19.65
5	1	0	16-QAM	20.71	20.61	20.71
5	1	12		20.49	20.33	20.49
5	1	24		20.26	20.12	20.28
5	12	0		19.96	19.85	20.02
5	12	6		19.73	19.57	19.78
5	12	11		19.50	19.28	19.51
5	25	0		19.23	19.07	19.22
10	1	0	QPSK	20.84	20.94	20.84
10	1	24		20.55	20.72	20.64
10	1	49		20.35	20.44	20.39
10	25	0		20.09	20.17	20.17
10	25	12		19.80	19.88	19.94
10	25	24		19.60	19.65	19.65
10	50	0		19.37	19.40	19.38
10	1	0	16-QAM	20.63	20.66	20.64
10	1	24		20.34	20.43	20.36
10	1	49		20.05	20.14	20.06
10	25	0		19.82	19.89	19.77
10	25	12		19.56	19.67	19.48
10	25	24		19.28	19.41	19.25
10	50	0		18.99	19.15	18.98



LTE Band 25 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
15	1	0	QPSK	21.08	21.15	21.07
15	1	37		20.79	20.93	20.80
15	1	74		20.57	20.69	20.54
15	36	0		20.36	20.47	20.24
15	36	18		20.14	20.23	19.96
15	36	39		19.88	19.94	19.74
15	75	0		19.66	19.67	19.54
15	1	0	16-QAM	20.83	20.89	20.78
15	1	38		20.55	20.67	20.50
15	1	75		20.28	20.41	20.22
15	36	0		20.04	20.13	19.97
15	36	18		19.76	19.93	19.76
15	36	39		19.49	19.70	19.49
15	75	0		19.23	19.44	19.24
20	1	0	QPSK	21.07	21.30	21.14
20	1	49		20.80	21.09	20.91
20	1	99		20.55	20.86	20.71
20	50	0		20.33	20.62	20.48
20	50	24		20.05	20.39	20.23
20	50	49		19.80	20.18	20.00
20	100	0		19.59	19.93	19.75
20	1	0	16-QAM	20.80	21.03	20.86
20	1	49		20.54	20.80	20.60
20	1	99		20.25	20.53	20.31
20	50	0		19.95	20.26	20.03
20	50	24		19.74	20.01	19.74
20	50	49		19.48	19.74	19.49
20	100	0		19.21	19.49	19.28



LTE BAND 26 Part22

LTE Band 26 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
1.4	1	0	QPSK	23.22	23.37	23.30
1.4	1	2		22.95	23.10	23.07
1.4	1	5		22.69	22.82	22.84
1.4	3	0		22.48	22.62	22.63
1.4	3	1		22.20	22.37	22.36
1.4	3	2		21.94	22.14	22.10
1.4	6	0		21.66	21.93	21.84
1.4	1	0	16-QAM	23.01	23.16	23.01
1.4	1	2		22.74	22.94	22.77
1.4	1	5		22.45	22.65	22.56
1.4	3	0		22.18	22.40	22.32
1.4	3	1		21.89	22.10	22.02
1.4	3	2		21.63	21.81	21.74
1.4	6	0		21.40	21.54	21.52
3	1	0	QPSK	23.15	23.20	23.09
3	1	7		22.92	22.98	22.81
3	1	14		22.68	22.68	22.58
3	8	0		22.48	22.46	22.35
3	8	4		22.21	22.23	22.10
3	8	7		22.00	21.98	21.81
3	15	0		21.74	21.69	21.53
3	1	0	16-QAM	22.89	22.93	22.88
3	1	7		22.62	22.70	22.64
3	1	14		22.33	22.49	22.36
3	8	0		22.10	22.23	22.12
3	8	4		21.82	21.99	21.83
3	8	7		21.61	21.72	21.55
3	15	0		21.31	21.46	21.34



LTE BAND 26 Part22

LTE Band 26 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	23.18	23.37	23.16
5	1	12		22.91	23.14	22.95
5	1	24		22.67	22.92	22.70
5	12	0		22.42	22.72	22.50
5	12	6		22.14	22.43	22.21
5	12	11		21.91	22.17	21.93
5	25	0		21.62	21.93	21.65
5	1	0	16-QAM	22.94	23.07	22.88
5	1	12		22.69	22.84	22.64
5	1	24		22.48	22.57	22.40
5	12	0		22.25	22.29	22.14
5	12	6		21.99	22.07	21.89
5	12	11		21.76	21.77	21.66
5	25	0		21.53	21.55	21.38
10	1	0	QPSK	23.41	23.08	23.14
10	1	24		23.19	22.83	22.88
10	1	49		22.98	22.61	22.63
10	25	0		22.76	22.37	22.34
10	25	12		22.50	22.15	22.13
10	25	24		22.25	21.87	21.91
10	50	0		21.98	21.57	21.69
10	1	0	16-QAM	23.14	22.81	22.91
10	1	24		22.85	22.58	22.67
10	1	49		22.58	22.35	22.47
10	25	0		22.37	22.10	22.26
10	25	12		22.10	21.88	22.02
10	25	24		21.83	21.68	21.74
10	50	0		21.58	21.39	21.51



LTE BAND 26 Part22

LTE Band 26 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
15	1	0	QPSK	23.18	23.52	23.24
15	1	37		22.90	23.23	22.99
15	1	74		22.67	22.96	22.73
15	36	0		22.46	22.68	22.51
15	36	18		22.17	22.40	22.30
15	36	39		21.91	22.18	22.02
15	75	0		21.63	21.89	21.78
15	1	0	16-QAM	22.91	23.25	23.02
15	1	38		22.66	23.01	22.82
15	1	75		22.39	22.76	22.56
15	36	0		22.11	22.51	22.29
15	36	18		21.85	22.31	22.05
15	36	39		21.56	22.07	21.81
15	75	0		21.27	21.78	21.54



LTE BAND 26 Part90

LTE Band 26 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
1.4	1	0	QPSK	23.27	23.33	23.26
1.4	1	2		23.01	23.12	22.98
1.4	1	5		22.80	22.85	22.74
1.4	3	0		22.54	22.65	22.48
1.4	3	1		22.32	22.35	22.27
1.4	3	2		22.09	22.12	21.99
1.4	6	0		21.80	21.84	21.74
1.4	1	0	16-QAM	22.97	23.07	22.97
1.4	1	2		22.72	22.83	22.77
1.4	1	5		22.45	22.54	22.49
1.4	3	0		22.17	22.31	22.29
1.4	3	1		21.89	22.06	22.06
1.4	3	2		21.67	21.79	21.77
1.4	6	0		21.44	21.52	21.49
3	1	0	QPSK	23.31	23.28	23.10
3	1	7		23.08	23.03	22.90
3	1	14		22.86	22.83	22.69
3	8	0		22.56	22.59	22.44
3	8	4		22.35	22.33	22.23
3	8	7		22.14	22.05	22.02
3	15	0		21.86	21.83	21.74
3	1	0	16-QAM	23.09	23.05	22.80
3	1	7		22.87	22.75	22.57
3	1	14		22.58	22.50	22.29
3	8	0		22.35	22.26	22.02
3	8	4		22.11	22.04	21.75
3	8	7		21.86	21.80	21.47
3	15	0		21.56	21.55	21.18



LTE BAND 26 Part90

LTE Band 26 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	23.16	23.08	23.11
5	1	12		22.94	22.79	22.88
5	1	24		22.67	22.52	22.67
5	12	0		22.46	22.30	22.38
5	12	6		22.25	22.02	22.17
5	12	11		21.98	21.76	21.89
5	25	0		21.71	21.55	21.59
5	1	0	16-QAM	22.95	22.81	22.82
5	1	12		22.72	22.55	22.61
5	1	24		22.46	22.33	22.36
5	12	0		22.17	22.10	22.08
5	12	6		21.92	21.86	21.82
5	12	11		21.67	21.65	21.53
5	25	0		21.42	21.45	21.26
10	1	0	QPSK	N/A	23.40	N/A
10	1	24		N/A	23.11	N/A
10	1	49		N/A	22.82	N/A
10	25	0		N/A	22.60	N/A
10	25	12		N/A	22.39	N/A
10	25	24		N/A	22.12	N/A
10	50	0		N/A	21.89	N/A
10	1	0	16-QAM	N/A	23.13	N/A
10	1	24		N/A	22.87	N/A
10	1	49		N/A	22.61	N/A
10	25	0		N/A	22.35	N/A
10	25	12		N/A	22.14	N/A
10	25	24		N/A	21.87	N/A
10	50	0		N/A	21.67	N/A



LTE BAND 38

LTE Band 38 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	21.68	21.28	21.56
5	1	12		21.44	21.01	21.36
5	1	24		21.23	20.77	21.10
5	12	0		21.02	20.49	20.85
5	12	6		20.74	20.24	20.61
5	12	11		20.45	20.00	20.40
5	25	0		20.16	19.73	20.13
5	1	0	16-QAM	21.42	21.02	21.30
5	1	12		21.16	20.79	21.05
5	1	24		20.93	20.57	20.81
5	12	0		20.69	20.30	20.55
5	12	6		20.40	20.09	20.25
5	12	11		20.11	19.79	19.98
5	25	0		19.82	19.54	19.71
10	1	0	QPSK	21.55	21.61	21.94
10	1	24		21.32	21.33	21.72
10	1	49		21.09	21.09	21.48
10	25	0		20.84	20.89	21.23
10	25	12		20.58	20.60	20.96
10	25	24		20.32	20.38	20.75
10	50	0		20.11	20.17	20.48
10	1	0	16-QAM	21.33	21.36	21.67
10	1	24		21.10	21.10	21.37
10	1	49		20.83	20.83	21.15
10	25	0		20.57	20.56	20.90
10	25	12		20.27	20.34	20.66
10	25	24		19.99	20.07	20.37
10	50	0		19.76	19.85	20.14



LTE Band 38 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
15	1	0	QPSK	21.82	21.59	21.73
15	1	37		21.59	21.30	21.51
15	1	74		21.35	21.06	21.29
15	36	0		21.06	20.81	21.05
15	36	18		20.79	20.52	20.83
15	36	39		20.51	20.28	20.58
15	75	0		20.24	20.02	20.37
15	1	0	16-QAM	21.59	21.34	21.44
15	1	38		21.30	21.11	21.15
15	1	75		21.05	20.83	20.87
15	36	0		20.78	20.60	20.64
15	36	18		20.50	20.30	20.39
15	36	39		20.24	20.01	20.11
15	75	0		20.03	19.75	19.87
20	1	0	QPSK	21.97	22.15	21.86
20	1	49		21.76	21.92	21.60
20	1	99		21.52	21.63	21.32
20	50	0		21.28	21.36	21.12
20	50	24		21.04	21.15	20.91
20	50	49		20.80	20.86	20.68
20	100	0		20.54	20.58	20.44
20	1	0	16-QAM	21.76	21.91	21.64
20	1	49		21.52	21.70	21.44
20	1	99		21.28	21.40	21.14
20	50	0		21.02	21.20	20.88
20	50	24		20.77	20.93	20.62
20	50	49		20.51	20.72	20.37
20	100	0		20.23	20.43	20.12



LTE BAND 40(2305-2315MHz)

LTE Band 40 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	19.48	19.68	19.27
5	1	12		19.19	19.42	19.06
5	1	24		18.98	19.16	18.84
5	12	0		18.71	18.93	18.57
5	12	6		18.46	18.68	18.34
5	12	11		18.23	18.46	18.10
5	25	0		18.00	18.18	17.83
5	1	0	16-QAM	19.23	19.48	19.05
5	1	12		19.01	19.22	18.76
5	1	24		18.71	18.96	18.46
5	12	0		18.42	18.70	18.16
5	12	6		18.17	18.44	17.90
5	12	11		17.89	18.17	17.67
5	25	0		17.68	17.95	17.46
10	1	0	QPSK	N/A	20.20	N/A
10	1	24		N/A	19.93	N/A
10	1	49		N/A	19.66	N/A
10	25	0		N/A	19.37	N/A
10	25	12		N/A	19.08	N/A
10	25	24		N/A	18.83	N/A
10	50	0		N/A	18.54	N/A
10	1	0	16-QAM	N/A	19.97	N/A
10	1	24		N/A	19.68	N/A
10	1	49		N/A	19.45	N/A
10	25	0		N/A	19.17	N/A
10	25	12		N/A	18.93	N/A
10	25	24		N/A	18.72	N/A
10	50	0		N/A	18.49	N/A



LTE BAND 40(2350-2360MHz)

LTE Band 40 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	19.84	19.35	19.66
5	1	12		19.55	19.07	19.42
5	1	24		19.29	18.87	19.20
5	12	0		19.05	18.66	18.99
5	12	6		18.77	18.38	18.71
5	12	11		18.51	18.14	18.42
5	25	0		18.27	17.88	18.13
5	1	0	16-QAM	19.59	19.10	19.38
5	1	12		19.39	18.82	19.16
5	1	24		19.18	18.53	18.89
5	12	0		18.90	18.25	18.68
5	12	6		18.61	18.03	18.42
5	12	11		18.37	17.78	18.14
5	25	0		18.15	17.54	17.94
10	1	0	QPSK	N/A	20.11	N/A
10	1	24		N/A	19.89	N/A
10	1	49		N/A	19.63	N/A
10	25	0		N/A	19.40	N/A
10	25	12		N/A	19.17	N/A
10	25	24		N/A	18.95	N/A
10	50	0		N/A	18.73	N/A
10	1	0	16-QAM	N/A	19.88	N/A
10	1	24		N/A	19.65	N/A
10	1	49		N/A	19.35	N/A
10	25	0		N/A	19.11	N/A
10	25	12		N/A	18.89	N/A
10	25	24		N/A	18.65	N/A
10	50	0		N/A	18.37	N/A



LTE BAND 41

LTE Band 41 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	22.00	22.33	22.22
5	1	12		21.70	22.06	21.95
5	1	24		21.40	21.85	21.71
5	12	0		21.14	21.56	21.51
5	12	6		20.85	21.30	21.27
5	12	13		20.56	21.10	20.98
5	25	0		20.29	20.81	20.71
5	1	0	16-QAM	21.72	22.04	22.02
5	1	12		21.49	21.75	21.80
5	1	24		21.20	21.53	21.56
5	12	0		20.93	21.28	21.36
5	12	6		20.71	21.05	21.13
5	12	13		20.46	20.77	20.92
5	25	0		20.24	20.55	20.71
10	1	0	QPSK	22.16	22.34	22.09
10	1	24		21.91	22.09	21.82
10	1	49		21.65	21.80	21.62
10	25	0		21.36	21.53	21.39
10	25	12		21.10	21.26	21.15
10	25	25		20.82	20.97	20.88
10	50	0		20.58	20.68	20.66
10	1	0	16-QAM	21.88	22.05	21.83
10	1	24		21.64	21.76	21.58
10	1	49		21.38	21.54	21.34
10	25	0		21.12	21.28	21.13
10	25	12		20.85	21.01	20.85
10	25	25		20.55	20.74	20.56
10	50	0		20.31	20.50	20.33



LTE BAND 41

LTE Band 41 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
15	1	0	QPSK	22.16	22.31	22.18
15	1	37		21.87	22.03	21.96
15	1	74		21.63	21.77	21.71
15	36	0		21.40	21.51	21.49
15	36	19		21.10	21.25	21.25
15	36	39		20.88	21.05	21.04
15	75	0		20.60	20.84	20.76
15	1	0	16-QAM	21.93	22.11	21.93
15	1	38		21.68	21.85	21.65
15	1	75		21.41	21.57	21.37
15	36	0		21.14	21.32	21.07
15	36	19		20.88	21.11	20.85
15	36	39		20.61	20.86	20.59
15	75	0		20.33	20.62	20.33
20	1	0	QPSK	22.13	22.59	22.24
20	1	50		21.84	22.32	22.02
20	1	99		21.55	22.04	21.78
20	50	0		21.35	21.81	21.52
20	50	25		21.09	21.54	21.31
20	50	50		20.85	21.32	21.07
20	100	0		20.64	21.07	20.87
20	1	0	16-QAM	21.84	22.32	22.01
20	1	50		21.56	22.07	21.80
20	1	99		21.32	21.78	21.59
20	50	0		21.06	21.49	21.33
20	50	25		20.81	21.26	21.04
20	50	50		20.51	21.03	20.83
20	100	0		20.26	20.81	20.56



LTE BAND 66

LTE Band 66 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
1.4	1	0	QPSK	22.24	22.38	22.16
1.4	1	2		21.99	22.10	21.89
1.4	1	5		21.69	21.87	21.68
1.4	3	0		21.39	21.61	21.46
1.4	3	1		21.15	21.32	21.17
1.4	3	2		20.89	21.10	20.88
1.4	6	0		20.64	20.85	20.64
1.4	1	0	16-QAM	22.02	22.13	21.93
1.4	1	2		21.74	21.85	21.69
1.4	1	5		21.50	21.63	21.39
1.4	3	0		21.22	21.41	21.16
1.4	3	1		21.01	21.13	20.87
1.4	3	2		20.79	20.90	20.67
1.4	6	0		20.51	20.66	20.38
3	1	0	QPSK	22.52	22.09	22.42
3	1	7		22.25	21.86	22.21
3	1	14		21.98	21.61	21.96
3	8	0		21.71	21.31	21.75
3	8	4		21.45	21.11	21.50
3	8	7		21.16	20.86	21.25
3	15	0		20.94	20.61	21.04
3	1	0	16-QAM	22.25	21.82	22.20
3	1	7		22.03	21.59	21.93
3	1	14		21.73	21.37	21.63
3	8	0		21.47	21.09	21.38
3	8	4		21.24	20.85	21.09
3	8	7		20.96	20.62	20.86
3	15	0		20.73	20.41	20.62



LTE Band 66 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	22.61	22.18	22.37
5	1	12		22.36	21.97	22.10
5	1	24		22.11	21.76	21.84
5	12	0		21.84	21.50	21.61
5	12	6		21.55	21.28	21.40
5	12	11		21.26	21.01	21.15
5	25	0		20.96	20.73	20.86
5	1	0	16-QAM	22.34	21.94	22.08
5	1	12		22.05	21.65	21.78
5	1	24		21.79	21.43	21.50
5	12	0		21.55	21.16	21.25
5	12	6		21.31	20.89	20.98
5	12	11		21.02	20.59	20.75
5	25	0		20.77	20.35	20.52
10	1	0	QPSK	22.57	22.50	22.37
10	1	24		22.27	22.26	22.11
10	1	49		22.03	22.03	21.88
10	25	0		21.76	21.80	21.66
10	25	12		21.54	21.59	21.36
10	25	24		21.26	21.34	21.13
10	50	0		21.02	21.07	20.88
10	1	0	16-QAM	22.30	22.22	22.09
10	1	24		22.04	21.98	21.87
10	1	49		21.83	21.73	21.60
10	25	0		21.58	21.46	21.40
10	25	12		21.29	21.22	21.15
10	25	24		21.00	20.98	20.86
10	50	0		20.78	20.76	20.58

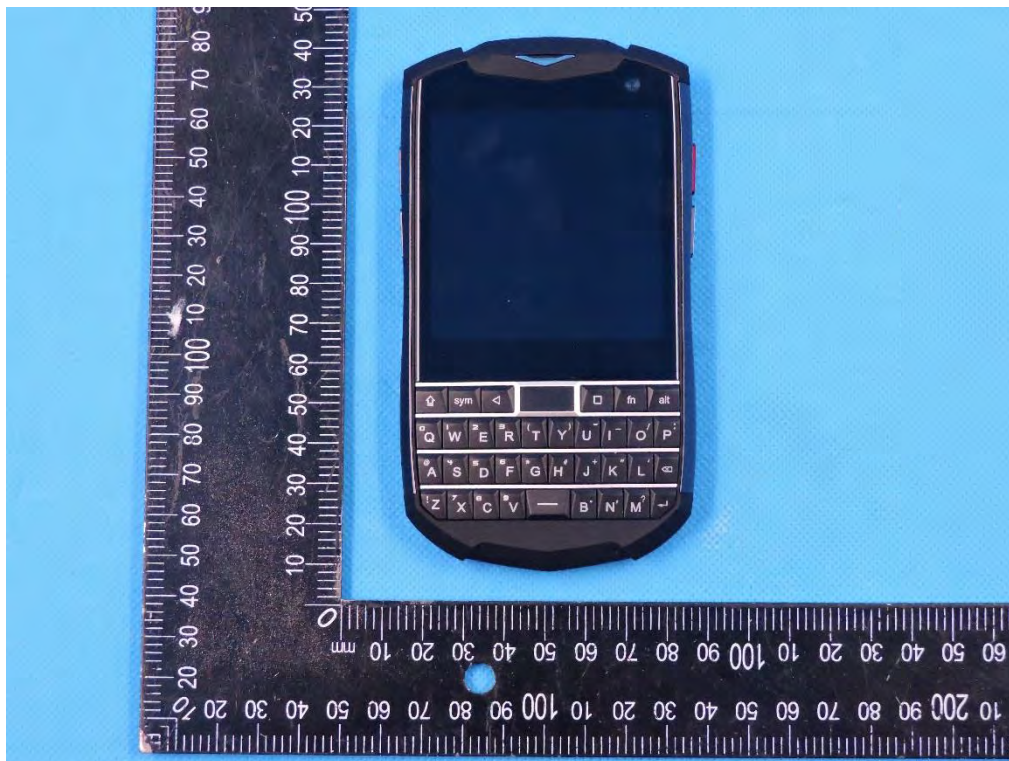


LTE Band 66 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
15	1	0	QPSK	22.38	22.50	22.29
15	1	37		22.18	22.30	22.00
15	1	74		21.96	22.06	21.77
15	36	0		21.68	21.76	21.50
15	36	18		21.44	21.48	21.23
15	36	39		21.14	21.19	20.96
15	75	0		20.87	20.94	20.72
15	1	0	16-QAM	22.16	22.25	22.01
15	1	38		21.93	21.98	21.72
15	1	75		21.73	21.72	21.51
15	36	0		21.48	21.48	21.28
15	36	18		21.21	21.19	21.06
15	36	39		20.91	20.97	20.80
15	75	0		20.65	20.70	20.53
20	1	0	QPSK	22.57	22.83	22.61
20	1	49		22.36	22.57	22.31
20	1	99		22.11	22.33	22.08
20	50	0		21.86	22.06	21.80
20	50	24		21.64	21.79	21.58
20	50	49		21.35	21.54	21.32
20	100	0		21.06	21.28	21.03
20	1	0	16-QAM	22.36	22.61	22.39
20	1	49		22.08	22.34	22.10
20	1	99		21.79	22.06	21.83
20	50	0		21.51	21.84	21.63
20	50	24		21.25	21.59	21.42
20	50	49		21.04	21.34	21.18
20	100	0		20.75	21.04	20.94

11. EUT and Test Setup Photo

11.1 EUT Photo

Front side



Back side



Top side



Bottom side





Left side

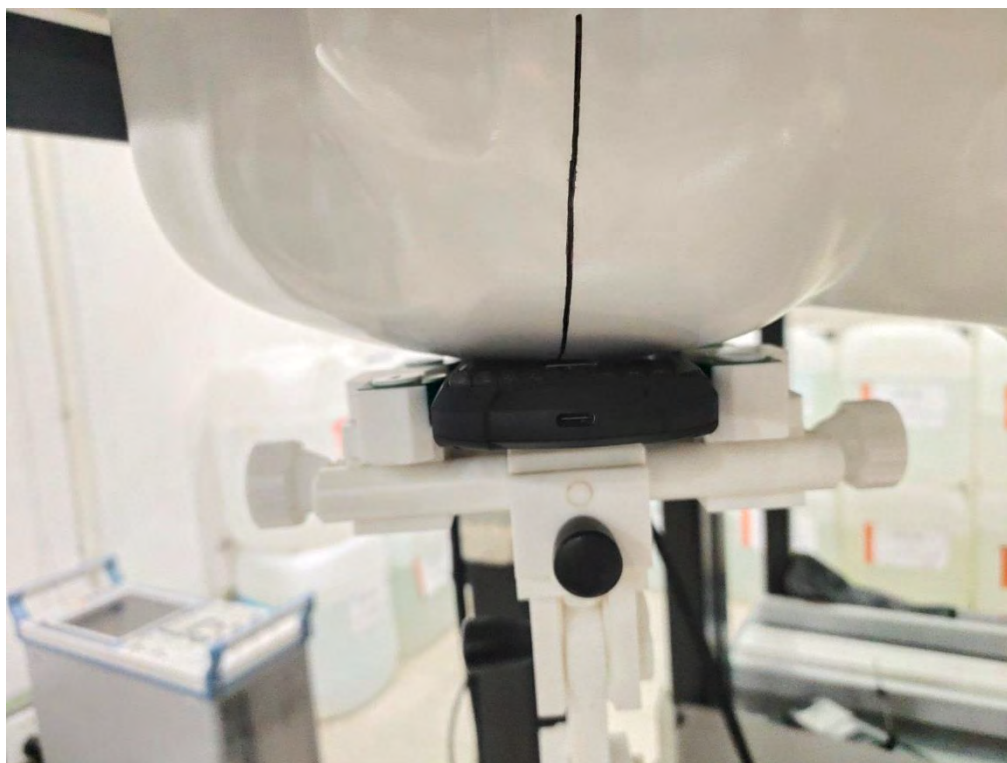


Right side

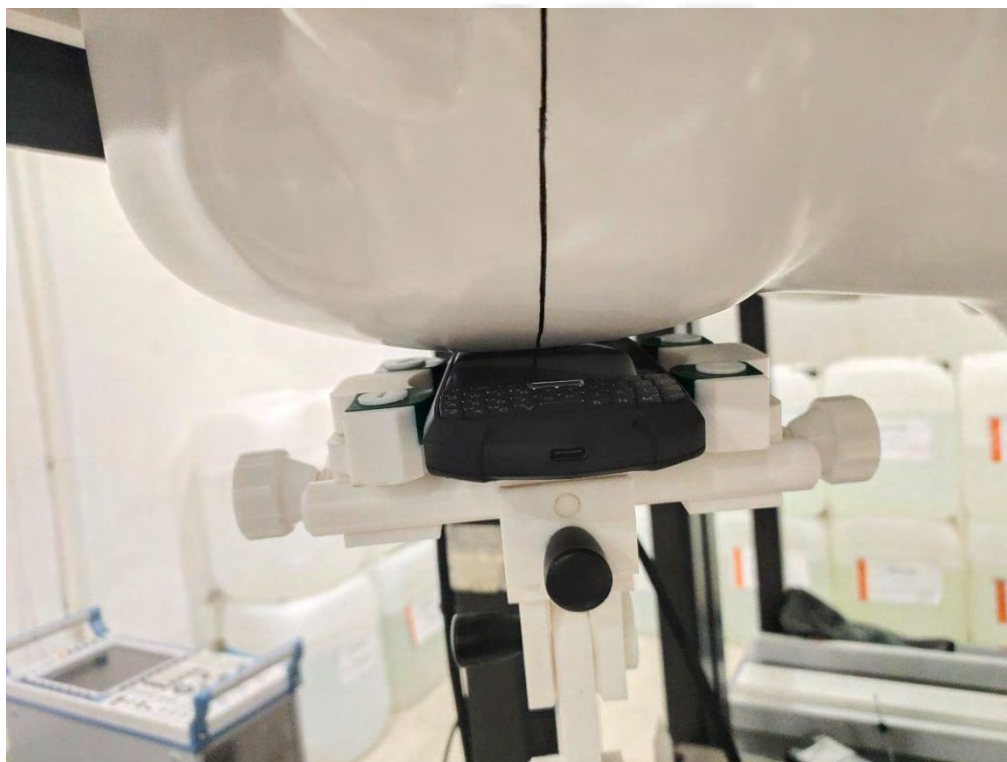


11.2 Setup Photo

Right Touch



Right Tilt



Left Touch



Left Tilt



Body Front side(separation distance is 10mm)



Body Back side(separation distance is 10mm)



Body Left side(separation distance is 10mm)



Body Right side(separation distance is 10mm)



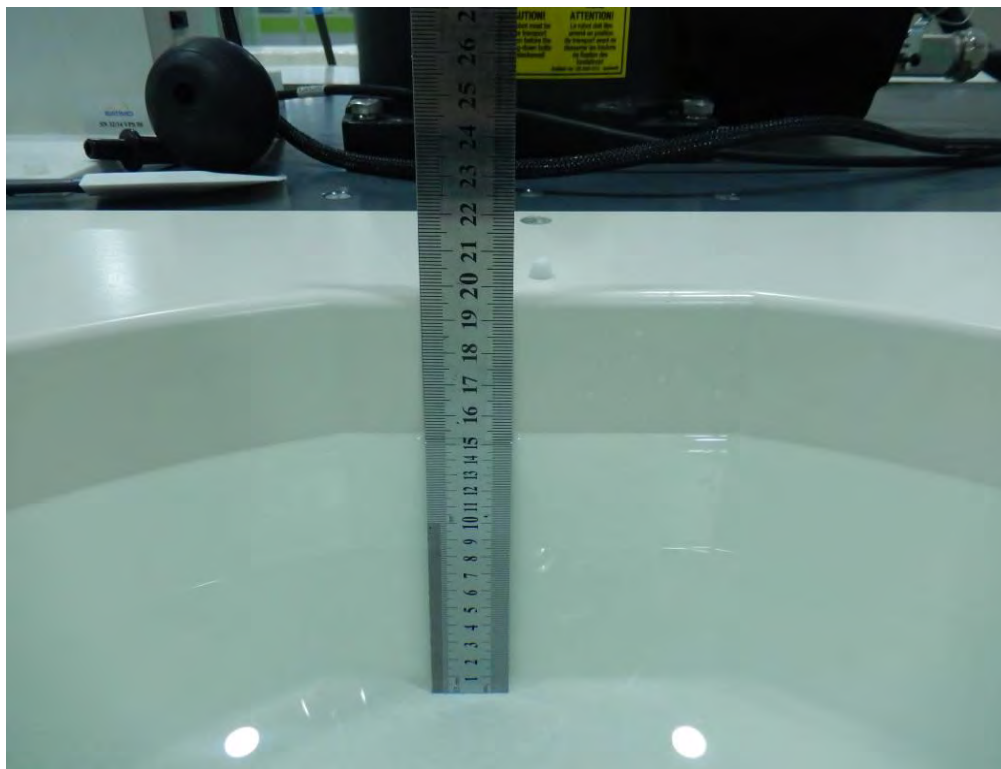
Body Bottom side(separation distance is 10mm)



Body Top side(separation distance is 10mm)



Liquid depth (15 cm)





12. SAR Result Summary

12.1 Head SAR

Band	Model	Test Position	Ch.	SAR (1g) (W/kg)	Power Drift(%)	Max.Turn-up Power(dBm)	Meas.Output Power(dBm)	Scaled SAR (W/Kg)	Meas.No.
GSM850	GPRS Data-4 Slot	Right Cheek	251	0.133	-2.70	31.00	30.97	0.134	/
		Right Tilt	251	0.062	-0.56	31.00	30.97	0.062	/
		Left Cheek	251	0.147	1.15	31.00	30.97	0.148	1
		Left Tilt	251	0.064	-1.39	31.00	30.97	0.064	/
GSM1900	GPRS Data-4 Slot	Right Cheek	512	0.030	1.28	29.00	28.20	0.036	/
		Right Tilt	512	0.015	2.64	29.00	28.20	0.018	/
		Left Cheek	512	0.035	-3.80	29.00	28.20	0.042	3
		Left Tilt	512	0.017	-3.36	29.00	28.20	0.020	/
WCDMA Band II	RMC	Right Cheek	9262	0.051	3.44	23.00	22.85	0.053	/
		Right Tilt	9262	0.025	2.00	23.00	22.85	0.026	/
		Left Cheek	9262	0.059	1.40	23.00	22.85	0.061	5
		Left Tilt	9262	0.028	-1.81	23.00	22.85	0.029	/
WCDMA Band IV	RMC	Right Cheek	1413	0.145	0.01	24.00	23.67	0.156	/
		Right Tilt	1413	0.063	-3.14	24.00	23.67	0.068	/
		Left Cheek	1413	0.159	2.18	24.00	23.67	0.172	7
		Left Tilt	1413	0.069	-3.54	24.00	23.67	0.074	/
WCDMA Band V	RMC	Right Cheek	4233	0.285	-1.18	25.00	24.52	0.318	/
		Right Tilt	4233	0.132	-3.71	25.00	24.52	0.147	/
		Left Cheek	4233	0.362	3.48	25.00	24.52	0.404	9
		Left Tilt	4233	0.156	1.30	25.00	24.52	0.174	/
CDMA BC0	RMC	Right Cheek	777	0.434	-2.00	27.30	27.29	0.435	/
		Right Tilt	777	0.212	0.74	27.30	27.29	0.212	/
		Left Cheek	777	0.530	2.60	27.30	27.29	0.531	11
		Left Tilt	777	0.251	-3.07	27.30	27.29	0.252	/
CDMA BC1	RMC	Right Cheek	1175	0.251	1.61	25.00	24.79	0.263	/
		Right Tilt	1175	0.135	-3.83	25.00	24.79	0.142	/
		Left Cheek	1175	0.342	-2.95	25.00	24.79	0.359	13
		Left Tilt	1175	0.172	-3.73	25.00	24.79	0.181	/



Band	BW (MHz)	Mod.	RB Size	RB offset	Test Position	Ch.	Result 1g (W/Kg)	Power Drift(%)	Max. Turn-up Power(dBm)	Meas. Output Power(dBm)	Scaled SAR (W/Kg)	Meas.No.
LTE Band 2	20M	QPSK	1	0	Right Cheek	18900	0.064	-0.09	22.00	21.84	0.066	/
			50	0	Right Cheek	18900	0.053	2.85	21.50	21.18	0.057	/
			1	0	Right Tilt	18900	0.030	2.59	22.00	21.84	0.031	/
			50	0	Right Tilt	18900	0.025	0.46	21.50	21.18	0.027	/
			1	0	Left Cheek	18900	0.084	-3.07	22.00	21.84	0.087	15
			50	0	Left Cheek	18900	0.077	-2.18	21.50	21.18	0.083	/
			1	0	Left Tilt	18900	0.042	3.95	22.00	21.84	0.044	/
			50	0	Left Tilt	18900	0.034	3.30	21.50	21.18	0.037	/
LTE Band 4	20M	QPSK	1	0	Right Cheek	20175	0.102	2.20	22.50	22.40	0.104	/
			50	0	Right Cheek	20175	0.091	1.52	22.00	21.70	0.098	/
			1	0	Right Tilt	20175	0.052	-2.72	22.50	22.40	0.053	/
			50	0	Right Tilt	20175	0.045	-1.17	22.00	21.70	0.048	/
			1	0	Left Cheek	20175	0.120	-0.17	22.50	22.40	0.123	17
			50	0	Left Cheek	20175	0.111	-3.06	22.00	21.70	0.119	/
			1	0	Left Tilt	20175	0.060	3.07	22.50	22.40	0.061	/
			50	0	Left Tilt	20175	0.053	-3.09	22.00	21.70	0.057	/
LTE Band 5	10M	QPSK	1	0	Right Cheek	20525	0.285	-1.43	23.00	22.75	0.302	/
			25	0	Right Cheek	20525	0.261	1.90	22.50	22.02	0.292	/
			1	0	Right Tilt	20525	0.142	1.73	23.00	22.75	0.150	/
			25	0	Right Tilt	20525	0.127	2.37	22.50	22.02	0.142	/
			1	0	Left Cheek	20525	0.385	-2.85	23.00	22.75	0.408	19
			25	0	Left Cheek	20525	0.361	3.21	22.50	22.02	0.403	/
			1	0	Left Tilt	20525	0.192	-0.38	23.00	22.75	0.203	/
			25	0	Left Tilt	20525	0.177	-1.25	22.50	22.02	0.198	/
LTE Band 7	20M	QPSK	1	0	Right Cheek	21100	0.303	-2.47	23.00	22.85	0.314	/
			50	0	Right Cheek	21100	0.272	-3.38	22.50	22.03	0.303	/
			1	0	Right Tilt	21100	0.101	1.39	23.00	22.85	0.105	/
			50	0	Right Tilt	21100	0.099	-0.07	22.50	22.03	0.110	/
			1	0	Left Cheek	21100	0.317	-2.71	23.00	22.85	0.328	21
			50	0	Left Cheek	21100	0.299	2.72	22.50	22.03	0.333	/
			1	0	Left Tilt	21100	0.152	-3.83	23.00	22.85	0.157	/
			50	0	Left Tilt	21100	0.141	1.44	22.50	22.03	0.157	/



LTE Band 12	10M	QPSK	1	0	Right Cheek	23095	0.192	-2.35	24.50	24.20	0.206	/
			25	0	Right Cheek	23095	0.175	0.14	23.50	23.36	0.181	/
			1	0	Right Tilt	23095	0.095	3.91	24.50	24.20	0.102	/
			25	0	Right Tilt	23095	0.083	1.28	23.50	23.36	0.086	/
			1	0	Left Cheek	23095	0.207	0.77	24.50	24.20	0.222	23
			25	0	Left Cheek	23095	0.198	-0.28	23.50	23.36	0.204	/
			1	0	Left Tilt	23095	0.104	2.59	24.50	24.20	0.111	/
			25	0	Left Tilt	23095	0.099	3.73	23.50	23.36	0.102	/
LTE Band 13	10M	QPSK	1	0	Right Cheek	23230	0.245	-3.29	23.00	22.72	0.261	/
			25	0	Right Cheek	23230	0.233	-1.33	22.00	21.96	0.235	/
			1	0	Right Tilt	23230	0.135	2.09	23.00	22.72	0.144	/
			25	0	Right Tilt	23230	0.125	-2.71	22.00	21.96	0.126	/
			1	0	Left Cheek	23230	0.289	1.39	23.00	22.72	0.308	25
			25	0	Left Cheek	23230	0.267	0.77	22.00	21.96	0.269	/
			1	0	Left Tilt	23230	0.141	0.36	23.00	22.72	0.150	/
			25	0	Left Tilt	23230	0.132	-3.39	22.00	21.96	0.133	/
LTE Band 17	10M	QPSK	1	0	Right Cheek	23790	0.194	1.96	23.00	22.74	0.206	/
			25	0	Right Cheek	23790	0.145	-3.11	22.50	22.10	0.159	/
			1	0	Right Tilt	23790	0.105	0.22	23.00	22.74	0.111	/
			25	0	Right Tilt	23790	0.074	2.27	22.50	22.10	0.081	/
			1	0	Left Cheek	23790	0.208	-3.33	23.00	22.74	0.221	27
			25	0	Left Cheek	23790	0.198	0.13	22.50	22.10	0.217	/
			1	0	Left Tilt	23790	0.104	1.99	23.00	22.74	0.110	/
			25	0	Left Tilt	23790	0.085	-2.01	22.50	22.10	0.093	/
LTE Band 25	20M	QPSK	1	0	Right Cheek	26365	0.040	-3.28	21.50	21.30	0.042	/
			50	0	Right Cheek	26365	0.034	0.41	21.00	20.62	0.037	/
			1	0	Right Tilt	26365	0.021	1.91	21.50	21.30	0.022	/
			50	0	Right Tilt	26365	0.017	-0.12	21.00	20.62	0.019	/
			1	0	Left Cheek	26365	0.050	0.52	21.50	21.30	0.052	29
			50	0	Left Cheek	26365	0.044	-1.24	21.00	20.62	0.048	/
			1	0	Left Tilt	26365	0.025	3.20	21.50	21.30	0.026	/
			50	0	Left Tilt	26365	0.022	0.72	21.00	20.62	0.024	/



LTE Band 26	15M	QPSK	1	0	Right Cheek	26865	0.345	0.97	24.00	23.52	0.385	/
			36	0	Right Cheek	26865	0.341	-2.27	23.00	22.68	0.367	/
			1	0	Right Tilt	26865	0.157	1.86	24.00	23.52	0.175	/
			36	0	Right Tilt	26865	0.142	0.25	23.00	22.68	0.153	/
			1	0	Left Cheek	26765	0.333	-2.17	24.00	23.18	0.402	/
			1	0	Left Cheek	26865	0.389	-2.49	24.00	23.52	0.434	31
			1	0	Left Cheek	26965	0.312	-0.31	24.00	23.24	0.372	/
			36	0	Left Cheek	26865	0.373	-1.94	23.00	22.68	0.402	/
			1	0	Left Tilt	26865	0.145	1.25	24.00	23.52	0.162	/
			36	0	Left Tilt	26865	0.130	1.42	23.00	22.68	0.140	/
LTE Band 38	20M	QPSK	1	0	Right Cheek	38000	0.095	-1.35	22.50	22.15	0.103	/
			50	0	Right Cheek	38000	0.084	1.79	21.50	21.36	0.087	/
			1	0	Right Tilt	38000	0.048	-3.10	22.50	22.15	0.052	/
			50	0	Right Tilt	38000	0.042	1.12	21.50	21.36	0.043	/
			1	0	Left Cheek	38000	0.119	-0.40	22.50	22.15	0.129	33
			50	0	Left Cheek	38000	0.101	3.28	21.50	21.36	0.104	/
			1	0	Left Tilt	38000	0.060	3.25	22.50	22.15	0.065	/
			50	0	Left Tilt	38000	0.051	3.57	21.50	21.36	0.053	/
LTE Band 40	10M	QPSK	1	0	Right Cheek	38750	0.089	2.75	20.50	20.20	0.095	/
			25	0	Right Cheek	38750	0.072	-2.00	19.50	19.37	0.074	/
			1	0	Right Tilt	38750	0.045	-3.56	20.50	20.20	0.048	/
			25	0	Right Tilt	38750	0.036	0.94	19.50	19.37	0.037	/
			1	0	Left Cheek	38750	0.105	-3.76	20.50	20.20	0.113	35
			25	0	Left Cheek	38750	0.093	0.03	19.50	19.37	0.096	/
			1	0	Left Tilt	38750	0.050	-3.08	20.50	20.20	0.054	/
			25	0	Left Tilt	38750	0.042	-1.40	19.50	19.37	0.043	/
LTE Band 41	20M	QPSK	1	0	Right Cheek	40620	0.063	-1.50	23.00	22.59	0.069	/
			50	0	Right Cheek	40620	0.058	-1.18	22.00	21.81	0.061	/
			1	0	Right Tilt	40620	0.032	-2.67	23.00	22.59	0.035	/
			50	0	Right Tilt	40620	0.029	0.45	22.00	21.81	0.030	/
			1	0	Left Cheek	40620	0.076	-2.84	23.00	22.59	0.084	37
			50	0	Left Cheek	40620	0.067	-0.49	22.00	21.81	0.070	/
			1	0	Left Tilt	40620	0.037	-2.62	23.00	22.59	0.041	/
			50	0	Left Tilt	40620	0.032	-2.47	22.00	21.81	0.033	/



LTE Band 66	20M	QPSK	1	0	Right Cheek	132322	0.151	0.97	23.00	22.83	0.157	/
			50	0	Right Cheek	132322	0.145	-2.45	22.50	22.06	0.160	/
			1	0	Right Tilt	132322	0.075	-3.85	23.00	22.83	0.078	/
			50	0	Right Tilt	132322	0.071	0.39	22.50	22.06	0.079	/
			1	0	Left Cheek	132322	0.188	0.38	23.00	22.83	0.196	39
			50	0	Left Cheek	132322	0.167	1.15	22.50	22.06	0.185	/
			1	0	Left Tilt	132322	0.098	3.08	23.00	22.83	0.102	/
			50	0	Left Tilt	132322	0.087	2.17	22.50	22.06	0.096	/

Band	Model	Test Position	Ch.	SAR (1g) (W/kg)	Power Drift(%)	Max.Turn-up Power(dBm)	Meas.Output Power(dBm)	Scaled SAR (W/Kg)	Meas.No.
2.4G WLAN	802.11b	Right Cheek	7	0.043	-1.38	12.50	12.19	0.046	41
		Right Tilt	7	0.020	0.78	12.50	12.19	0.021	/
		Left Cheek	7	0.041	1.38	12.50	12.19	0.044	/
		Left Tilt	7	0.019	0.46	12.50	12.19	0.020	/

Note:

- Per KDB 447498 D01, the reported SAR is the measured SAR value adjusted for maximum tune-up tolerance.
 - Tune-up scaling Factor = tune-up limit power (mW) / EUT RF power (mW), where tune-up limit is the maximum rated power among all production units.
 - For WWAN: Scaled SAR(W/kg)= Measured SAR(W/kg)*Tune-up Scaling Factor
- Per KDB 248227- When the highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power and the adjusted SAR is ≤ 1.2 W/kg. (The highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power was **0.013** W/Kg for Head)
- Per KDB865664 D01, Repeated measurement is not required when the original highest measured SAR is <0.80 W/kg



12.2 Body-worn and Hotspot SAR

Band	Model	Test Position	Ch.	SAR (1g) (W/kg)	Power Drift(%)	Max.Turn-up Power(dBm)	Meas.Output Power(dBm)	Scaled SAR (W/Kg)	Meas.No.
GSM900	GPRS Data-4 Slot	Front Side	251	0.101	0.04	31.00	30.97	0.102	/
		Back Side	251	0.264	2.24	31.00	30.97	0.266	2
		Left Edge	251	0.085	-2.05	31.00	30.97	0.086	/
		Right Edge	251	0.081	3.00	31.00	30.97	0.082	/
		Top Edge	251	0.010	3.30	31.00	30.97	0.010	/
		Bottom Edge	251	0.152	1.60	31.00	30.97	0.153	/
GSM1800	GPRS Data-4 Slot	Front Side	512	0.265	3.96	29.00	28.20	0.319	/
		Back Side	512	0.695	0.38	29.00	28.20	0.836	4
		Back Side	661	0.674	-3.55	29.00	28.14	0.822	/
		Back Side	810	0.651	2.37	29.00	27.95	0.829	/
		Left Edge	512	0.152	-3.72	29.00	28.20	0.183	/
		Right Edge	512	0.148	3.59	29.00	28.20	0.178	/
		Top Edge	512	0.008	-1.40	29.00	28.20	0.010	/
		Bottom Edge	512	0.352	-0.93	29.00	28.20	0.423	/
WCDMA Band II	RMC	Front Side	9262	0.285	-2.53	23.00	22.85	0.295	/
		Back Side	9262	0.610	-3.62	23.00	22.85	0.631	6
		Left Edge	9262	0.141	1.89	23.00	22.85	0.146	/
		Right Edge	9262	0.138	-1.05	23.00	22.85	0.143	/
		Bottom Edge	9262	0.312	0.03	23.00	22.85	0.323	/
WCDMA Band IV	RMC	Front Side	1413	0.511	-3.81	24.00	23.67	0.551	/
		Back Side	1312	0.934	-1.31	24.00	23.67	1.008	/
		Back Side	1413	1.126	1.40	24.00	23.67	1.215	8
		Back Side	1513	1.104	2.29	24.00	23.67	1.191	/
		Left Edge	1413	0.456	-3.00	24.00	23.67	0.492	/
		Right Edge	1413	0.411	-1.91	24.00	23.67	0.443	/
		Bottom Edge	1413	0.522	0.14	24.00	23.67	0.563	/
WCDMA Band V	RMC	Front Side	4233	0.211	2.04	25.00	24.52	0.236	/
		Back Side	4233	0.414	-3.81	25.00	24.52	0.462	10
		Left Edge	4233	0.158	2.05	25.00	24.52	0.176	/
		Right Edge	4233	0.143	-3.71	25.00	24.52	0.160	/
		Bottom Edge	4233	0.133	2.07	25.00	24.52	0.149	/
CDMA BC0	CDMA	Front Side	777	0.321	3.59	27.30	27.29	0.322	/
		Back Side	777	0.480	-3.99	27.30	27.29	0.481	12
		Left Edge	777	0.215	2.84	27.30	27.29	0.215	/
		Right Edge	777	0.210	-0.85	27.30	27.29	0.210	/
		Bottom Edge	777	0.101	1.80	27.30	27.29	0.101	/
CDMA BC1	CDMA	Front Side	1175	0.541	0.39	25.00	24.79	0.568	/
		Back Side	25	0.765	-3.96	25.00	24.44	0.871	/
		Back Side	600	0.824	-2.81	25.00	24.70	0.883	/
		Back Side	1175	0.875	-3.39	25.00	24.79	0.918	14
		Left Edge	1175	0.352	0.12	25.00	24.79	0.369	/
		Right Edge	1175	0.321	-2.42	25.00	24.79	0.337	/
		Bottom Edge	1175	0.182	2.38	25.00	24.79	0.191	/



Band	BW (MHz)	Mod.	RB Size	RB offset	Test Position	Ch.	Result 1g (W/Kg)	Power Drift(%)	Max. Turn-up Power(dBm)	Meas. Output Power(dBm)	Scaled SAR (W/Kg)	Meas.No.
LTE Band 2	20M	QPSK	1	0	Front side	18900	0.262	3.54	22.00	21.84	0.272	/
			50	0	Front side	18900	0.214	1.87	21.50	21.18	0.230	/
			1	0	Back Side	18900	0.624	1.88	22.00	21.84	0.647	16
			50	0	Back Side	18900	0.597	1.16	21.50	21.18	0.643	/
			1	0	Left Side	18900	0.312	-3.11	22.00	21.84	0.324	/
			50	0	Left Side	18900	0.294	-2.06	21.50	21.18	0.316	/
			1	0	Right Side	18900	0.292	3.77	22.00	21.84	0.303	/
			50	0	Right Side	18900	0.281	-2.60	21.50	21.18	0.302	/
			1	0	Bottom Side	18900	0.164	1.51	22.00	21.84	0.170	/
			50	0	Bottom Side	18900	0.152	-1.84	21.50	21.18	0.164	/
LTE Band 4	20M	QPSK	1	0	Front side	20175	0.535	-1.17	22.50	22.40	0.547	/
			50	0	Front side	20175	0.511	-0.18	21.50	21.70	0.488	/
			1	0	Back Side	20050	0.911	-2.05	22.50	22.17	0.983	/
			1	0	Back Side	20175	1.013	-1.84	22.50	22.40	1.037	18
			1	0	Back Side	20300	0.822	-1.80	22.50	22.14	0.893	/
			50	0	Back Side	20175	0.733	-1.47	21.50	21.70	0.700	/
			1	0	Left Side	20175	0.511	-2.70	22.50	22.40	0.523	/
			50	0	Left Side	20175	0.502	-3.63	21.50	21.70	0.479	/
			1	0	Right Side	20175	0.465	-0.74	22.50	22.40	0.476	/
			50	0	Right Side	20175	0.432	3.75	21.50	21.70	0.413	/
			1	0	Bottom Side	20175	0.243	-1.08	22.50	22.40	0.249	/
			50	0	Bottom Side	20175	0.219	-3.60	21.50	21.70	0.209	/
LTE Band 5	10M	QPSK	1	0	Front side	20525	0.285	2.99	23.00	22.75	0.302	/
			25	0	Front side	20525	0.232	2.75	22.50	22.02	0.259	/
			1	0	Back Side	20525	0.444	1.31	23.00	22.75	0.470	20
			25	0	Back Side	20525	0.411	-2.75	22.50	22.02	0.459	/
			1	0	Left Side	20525	0.233	2.78	23.00	22.75	0.247	/
			25	0	Left Side	20525	0.212	-2.98	22.50	22.02	0.237	/
			1	0	Right Side	20525	0.131	2.07	23.00	22.75	0.139	/
			25	0	Right Side	20525	0.122	2.58	22.50	22.02	0.136	/



LTE Band 7	20M	QPSK	1	0	Bottom Side	20525	0.068	-0.26	23.00	22.75	0.072	/
			25	0	Bottom Side	20525	0.059	-3.33	22.50	22.02	0.066	/
			1	0	Front side	21100	0.656	1.85	23.00	22.85	0.679	/
			50	0	Front side	21100	0.525	2.09	22.50	22.03	0.585	/
			1	0	Back Side	20850	0.794	-2.70	23.00	22.20	0.955	/
			1	0	Back Side	21100	0.929	-1.17	23.00	22.85	0.962	22
			1	0	Back Side	21350	0.795	-2.45	23.00	22.54	0.884	/
			50	0	Back Side	21100	0.715	3.96	22.50	22.03	0.797	/
			1	0	Left Side	21100	0.435	-0.23	23.00	22.85	0.450	/
			50	0	Left Side	21100	0.423	2.11	22.50	22.03	0.471	/
			1	0	Right Side	21100	0.233	-2.18	23.00	22.85	0.241	/
			50	0	Right Side	21100	0.212	3.08	22.50	22.03	0.236	/
			1	0	Bottom Side	21100	0.138	-1.93	23.00	22.85	0.143	/
			50	0	Bottom Side	21100	0.124	-3.40	22.50	22.03	0.138	/
LTE Band 12	10M	QPSK	1	0	Front side	23095	0.123	1.67	24.50	24.20	0.132	/
			25	0	Front side	23095	0.112	0.85	23.50	23.36	0.116	/
			1	0	Back Side	23095	0.316	1.45	24.50	24.20	0.339	24
			25	0	Back Side	23095	0.298	3.99	23.50	23.36	0.308	/
			1	0	Left Side	23095	0.111	1.93	24.50	24.20	0.119	/
			25	0	Left Side	23095	0.102	2.98	23.50	23.36	0.105	/
			1	0	Right Side	23095	0.092	-2.87	24.50	24.20	0.099	/
			25	0	Right Side	23095	0.085	1.78	23.50	23.36	0.088	/
			1	0	Bottom Side	23095	0.079	3.76	24.50	24.20	0.085	/
			25	0	Bottom Side	23095	0.063	1.75	23.50	23.36	0.065	/
LTE Band 13	10M	QPSK	1	0	Front side	23230	0.212	0.94	23.00	22.72	0.226	/
			25	0	Front side	23230	0.190	3.09	22.00	21.96	0.192	/
			1	0	Back Side	23230	0.366	3.99	23.00	22.72	0.390	26
			25	0	Back Side	23230	0.342	-1.36	22.00	21.96	0.345	/
			1	0	Left Side	23230	0.203	-1.91	23.00	22.72	0.217	/
			25	0	Left Side	23230	0.188	-0.50	22.00	21.96	0.190	/
			1	0	Right Side	23230	0.164	-1.67	23.00	22.72	0.175	/
			25	0	Right Side	23230	0.142	1.78	22.00	21.96	0.143	/



			1	0	Bottom Side	23230	0.103	2.39	23.00	22.72	0.110	/
			25	0	Bottom Side	23230	0.101	1.79	22.00	21.96	0.102	/
LTE Band 17	10M	QPSK	1	0	Front side	23790	0.135	2.17	23.00	22.74	0.143	/
			25	0	Front side	23790	0.131	3.85	22.50	22.10	0.144	/
			1	0	Back Side	23790	0.311	-1.02	23.00	22.74	0.330	28
			25	0	Back Side	23790	0.271	-3.50	22.50	22.10	0.297	/
			1	0	Left Side	23790	0.084	-2.50	23.00	22.74	0.089	/
			25	0	Left Side	23790	0.073	-2.45	22.50	22.10	0.080	/
			1	0	Right Side	23790	0.070	-3.33	23.00	22.74	0.074	/
			25	0	Right Side	23790	0.063	2.15	22.50	22.10	0.069	/
			1	0	Bottom Side	23790	0.042	-1.13	23.00	22.74	0.045	/
			25	0	Bottom Side	23790	0.031	0.90	22.50	22.10	0.034	/
LTE Band 25	20M	QPSK	1	0	Front side	26365	0.434	1.22	21.50	21.30	0.454	/
			50	0	Front side	26365	0.411	-0.71	21.00	20.62	0.449	/
			1	0	Back Side	26365	0.749	3.34	21.50	21.30	0.784	30
			50	0	Back Side	26365	0.624	2.85	21.00	20.62	0.681	/
			1	0	Left Side	26365	0.334	-1.07	21.50	21.30	0.350	/
			50	0	Left Side	26365	0.313	-3.97	21.00	20.62	0.342	/
			1	0	Right Side	26365	0.284	3.76	21.50	21.30	0.297	/
			50	0	Right Side	26365	0.242	-3.19	21.00	20.62	0.264	/
			1	0	Bottom Side	26365	0.142	-2.53	21.50	21.30	0.149	/
			50	0	Bottom Side	26365	0.128	-2.47	21.00	20.62	0.140	/
LTE Band 26	15M	QPSK	1	0	Front side	26865	0.285	1.98	24.00	23.52	0.318	/
			36	0	Front side	26865	0.212	-1.83	23.00	22.68	0.228	/
			1	0	Back Side	26865	0.445	3.85	24.00	23.52	0.497	32
			36	0	Back Side	26865	0.324	1.76	23.00	22.68	0.349	/
			1	0	Left Side	26865	0.188	1.60	24.00	23.52	0.210	/
			36	0	Left Side	26865	0.148	-0.85	23.00	22.68	0.159	/
			1	0	Right Side	26865	0.132	1.64	24.00	23.52	0.147	/
			36	0	Right Side	26865	0.121	0.70	23.00	22.68	0.130	/
			1	0	Bottom Side	26865	0.083	-2.49	24.00	23.52	0.093	/
			36	0	Bottom Side	26865	0.077	-2.14	23.00	22.68	0.083	/



LTE Band 38	20M	QPSK	1	0	Front side	38000	0.535	-2.84	22.50	22.15	0.580	/
			50	0	Front side	38000	0.464	-1.68	21.50	21.36	0.479	/
			1	0	Back Side	37850	0.838	-2.13	22.50	21.97	0.947	/
			1	0	Back Side	38000	1.132	3.40	22.50	22.15	1.227	34
			1	0	Back Side	38150	0.682	2.92	22.50	21.86	0.790	/
			50	0	Back Side	38000	0.698	2.49	21.50	21.36	0.721	/
			1	0	Left Side	38000	0.469	0.92	22.50	22.15	0.508	/
			50	0	Left Side	38000	0.434	2.76	21.50	21.36	0.448	/
			1	0	Right Side	38000	0.389	-0.06	22.50	22.15	0.422	/
			50	0	Right Side	38000	0.381	3.37	21.50	21.36	0.393	/
			1	0	Bottom Side	38000	0.288	-3.58	22.50	22.15	0.312	/
			50	0	Bottom Side	38000	0.216	3.00	21.50	21.36	0.223	/
LTE Band 40	10M	QPSK	1	0	Front side	38750	0.211	-3.46	20.50	20.20	0.226	/
			25	0	Front side	38750	0.198	-3.31	19.50	19.37	0.204	/
			1	0	Back Side	38750	0.425	2.03	20.50	20.20	0.455	36
			25	0	Back Side	38750	0.354	1.11	19.50	19.37	0.365	/
			1	0	Left Side	38750	0.181	-2.27	20.50	20.20	0.194	/
			25	0	Left Side	38750	0.142	2.73	19.50	19.37	0.146	/
			1	0	Right Side	38750	0.125	0.23	20.50	20.20	0.134	/
			25	0	Right Side	38750	0.114	1.64	19.50	19.37	0.117	/
			1	0	Bottom Side	38750	0.089	-3.21	20.50	20.20	0.095	/
			25	0	Bottom Side	38750	0.073	0.07	19.50	19.37	0.075	/
LTE Band 41	20M	QPSK	1	0	Front side	40620	0.156	3.32	23.00	22.59	0.171	/
			50	0	Front side	40620	0.143	-3.03	22.00	21.81	0.149	/
			1	0	Back Side	40620	0.448	0.06	23.00	22.59	0.492	38
			50	0	Back Side	40620	0.401	3.52	22.00	21.81	0.419	/
			1	0	Left Side	40620	0.082	-1.10	23.00	22.59	0.090	/
			50	0	Left Side	40620	0.069	-0.16	22.00	21.81	0.072	/
			1	0	Right Side	40620	0.061	0.09	23.00	22.59	0.067	/
			50	0	Right Side	40620	0.048	2.14	22.00	21.81	0.050	/
			1	0	Bottom Side	40620	0.024	-2.18	23.00	22.59	0.026	/
			50	0	Bottom Side	40620	0.021	-2.68	22.00	21.81	0.022	/



LTE Band 66	20M	QPSK	1	0	Front side	132322	0.551	0.98	23.00	22.83	0.573	/
			50	0	Front side	132322	0.435	0.58	22.50	22.06	0.481	/
			1	0	Back Side	132072	0.878	1.94	23	22.57	0.969	/
			1	0	Back Side	132322	1.164	2.08	23	22.83	1.210	40
			1	0	Back Side	132572	0.904	0.72	23	22.61	0.989	/
			50	0	Back Side	132322	0.688	-1.76	22.50	22.06	0.761	/
			1	0	Left Side	132322	0.482	-2.83	23.00	22.83	0.501	/
			50	0	Left Side	132322	0.413	-0.38	22.50	22.06	0.457	/
			1	0	Right Side	132322	0.333	-2.88	23.00	22.83	0.346	/
			50	0	Right Side	132322	0.318	1.27	22.50	22.06	0.352	/
			1	0	Bottom Side	132322	0.152	0.22	23.00	22.83	0.158	/
			50	0	Bottom Side	132322	0.144	2.91	22.50	22.06	0.159	/



Band	Model	Test Position	Ch.	SAR (1g) (W/kg)	Power Drift(%)	Max.Turn-up Power(dBm)	Meas.Output Power(dBm)	Scaled SAR (W/Kg)	Meas.No.
2.4GHz WLAN	802.11b	Front Side	7	0.019	-0.46	12.50	12.19	0.020	/
		Back Side	7	0.028	3.02	12.50	12.19	0.030	42
		Top Edge	7	0.015	-1.66	12.50	12.19	0.016	/

Note:

1. The test separation of all above table is 10mm.
2. Per KDB 447498 D01, the reported SAR is the measured SAR value adjusted for maximum tune-up tolerance.
 - a. Tune-up scaling Factor = tune-up limit power (mW) / EUT RF power (mW), where tune-up limit is the maximum rated power among all production units.
 - b. For WWAN: Scaled SAR(W/kg)= Measured SAR(W/kg)*Tune-up Scaling Factor
3. Per KDB 248227- When the highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power and the adjusted SAR is ≤ 1.2 W/kg. (The highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power was **0.008** W/Kg for Body)
4. When the user enables the personal Wireless router functions for the handsets, actual operations include simultaneous transmission of both the Wi-Fi transmitting frequency and thus cannot be evaluated for SAR under actual use conditions. The "Portable Hotspot" feature on the handset was NOT activated, to ensure the SAR measurements were evaluated for a single transmission frequency RF signal.

**Repeated SAR**

Band	Mode	Test Position	Ch.	Result 1g (W/Kg)	Power Drift(%)	Max.Turn-up Power(dBm)	Meas.Output Power(dBm)	Scaled SAR (W/Kg)	Meas. No.
WCDMA IV	RMC	Back Side	1413	1.003	-1.71	24.00	23.67	1.082	/
CDMA BC1	CDMA	Back Side	1175	0.859	-0.76	25.00	24.79	0.902	/

Band	BW (MHz)	Mod.	RB Size	RB offset	Test Position	Ch.	Result 1g (W/Kg)	Power Drift(%)	Max. Turn-up Power(dBm)	Meas. Output Power(dBm)	Scaled SAR (W/Kg)	Meas. No.
LTE Band 4	20M	QPSK	1	0	Back Side	20175	1.007	-0.41	22.50	22.40	1.030	/
LTE Band 7	20M	QPSK	1	0	Back Side	21100	0.831	-1.57	23.00	22.85	0.860	/
LTE Band 38	20M	QPSK	1	0	Back Side	38000	1.106	-0.88	22.50	22.15	1.199	/
LTE Band 66	20M	QPSK	1	0	Back Side	132322	0.997	2.33	23.00	22.83	1.037	/

12.3 repeated SAR measurement

Band	Mode	Test Position	Ch.	Original Measured SAR 1g(mW/g)	1 st Repeated SAR 1g	Ratio	Original Measured SAR 1g(mW/g)	2nd Repeated SAR 1g	Ratio
WCDMA IV	RMC	Back Side	1413	1.215	1.082	1.123	-	-	-
CDMA BC1	CDMA	Back Side	1175	0.918	0.902	1.018	-	-	-

Band	BW (MHz)	Mod.	RB Size	RB offset	Test Position	Ch.	Original Measured SAR 1g(mW/g)	1 st Repeated SAR 1g	Ratio	Original Measured SAR 1g(mW/g)	2nd Repeated SAR 1g	Ratio
LTE Band 4	20M	QPSK	1	0	Back Side	20175	1.037	1.030	1.007	-	-	-
LTE Band 7	20M	QPSK	1	0	Back Side	21100	0.962	0.860	1.119	-	-	-
LTE Band 38	20M	QPSK	1	0	Back Side	38000	1.227	1.106	1.109	-	-	-
LTE Band 66	20M	QPSK	1	0	Back Side	132322	1.210	1.037	1.167	-	-	-

Note:

1. Per KDB 865664 D01,for each frequency band ,repeated SAR measurement is required only when the measured SAR is $\geq 0.8\text{W/Kg}$.
2. Per KDB 865664 D01,if the ratio of largest to smallest SAR for the original and first repeated measurement is ≤ 1.2 and the measured SAR $< 1.45\text{W/Kg}$, only one repeated measurement is required.
3. Perform a second repeated measurement only if the ratio of largest to smallest SAR for the original and first repeated measurements is > 1.20 or when the original or repeated measurement is $\geq 1.45\text{W/Kg}$
4. The ratio is the difference in percentage between original and repeated measured SAR.

**Simultaneous Multi-band Transmission Evaluation:**

Application Simultaneous Transmission information:

Position	Simultaneous State
Head	1. GSM + 2.4GHz WLAN/5G WLAN
	2. GSM + Bluetooth
	3. WCDMA + 2.4GHz WLAN/5G WLAN
	4. WCDMA + Bluetooth
	5. CDMA + 2.4GHz WLAN/5G WLAN
	6. CDMA + Bluetooth
	7. LTE + 2.4GHz WLAN/5G WLAN
	8. LTE + Bluetooth
Body	1. GSM + 2.4GHz WLAN/5G WLAN
	2. GSM + Bluetooth
	3. WCDMA + 2.4GHz WLAN/5G WLAN
	4. WCDMA + Bluetooth
	5. CDMA + 2.4GHz WLAN/5G WLAN
	6. CDMA + Bluetooth
	7. LTE + 2.4GHz WLAN/5G WLAN
	8. LTE + Bluetooth

NOTE:

1. Bluetooth and WLAN can't simultaneous transmission at the same time.
2. For simultaneous transmission at head and body exposure position, 2 transmitters simultaneous transmission was the worst state.
3. Based upon KDB 447498 D01, BT SAR is excluded as below table.
4. If the test separation distance is <5mm, 5mm is used for excluded SAR calculation.
5. For minimum test separation distance $\leq 50\text{mm}$, Bluetooth standalone SAR is excluded according to $[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] \cdot [\sqrt{f} (\text{GHz}) / x] \leq 3.0$ for 1-g SAR and ≤ 7.5 for 10-g extremity SAR
6. The reported SAR summation is calculated based on the same configuration and test position.
7. KDB 447498 / 4.3.2 (2) when standalone SAR test exclusion applies to an antenna that transmits simultaneously with other antennas, the standalone SAR must be estimated according to following to determine simultaneous transmission SAR test exclusion:
 - a) $(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm}) \cdot [\sqrt{f} (\text{GHz}) / x] \text{ W/kg}$ for test separation distances $\leq 50 \text{ mm}$;
Where $x = 7.5$ for 1-g SAR, and $x = 18.75$ for 10-g SAR.
 - b) 0.4W/Kg for 1-g SAR and 1.0W/Kg for 10-g SAR, when the separation distance is $>50\text{mm}$.



Estimated SAR		Maximum Turn-up Power		Antenna to user(mm)	Frequency(GHz)	Stand Alone SAR(1g) [W/kg]
		dBm	mW			
BT	Head	7	5.012	5	2.441	0.209
	Body			5	2.441	0.209
5.2G WLAN	Head	7.5	5.623	5	5.210	0.342
	Body			5	5.210	0.342
5.3G WLAN	Head	7.5	5.623	5	5.270	0.344
	Body			5	5.270	0.344
5.6G WLAN	Head	7	5.012	5	5.530	0.314
	Body			5	5.530	0.314
5.8G WLAN	Head	7	5.012	5	5.745	0.320
	Body			5	5.745	0.320



Simultaneous Mode	Position	Mode	Max. 1-g SAR	1-g Sum SAR
			(W/kg)	(W/kg)
GSM + 2.4G WLAN	Head	GSM	0.148	0.194
		2.4G WLAN	0.046	
	Body	GSM	0.836	0.866
		2.4G WLAN	0.030	
GSM + Bluetooth	Head	GSM	0.148	0.357
		Bluetooth	0.209	
	Body	GSM	0.836	1.045
		Bluetooth	0.209	
GSM + 5G WLAN	Head	GSM	0.148	0.492
		5G WLAN	0.344	
	Body	GSM	0.836	1.180
		5G WLAN	0.344	
WCDMA + 2.4G WLAN	Head	WCDMA	0.404	0.45
		2.4G WLAN	0.046	
	Body	WCDMA	1.215	1.245
		2.4G WLAN	0.030	
WCDMA + Bluetooth	Head	WCDMA	0.404	0.613
		Bluetooth	0.209	
	Body	WCDMA	1.215	1.424
		Bluetooth	0.209	
WCDMA + 5G WLAN	Head	WCDMA	0.404	0.748
		5G WLAN	0.344	
	Body	WCDMA	1.215	1.559
		5G WLAN	0.344	
CDMA + 2.4G WLAN	Head	CDMA	0.531	0.577
		2.4G WLAN	0.046	
	Body	CDMA	0.918	0.948
		2.4G WLAN	0.030	
CDMA + Bluetooth	Head	CDMA	0.531	0.740
		Bluetooth	0.209	
	Body	CDMA	0.918	1.127
		Bluetooth	0.209	



CDMA + 5G WLAN	Head	CDMA	0.531	0.875
		5G WLAN	0.344	
	Body	CDMA	0.918	1.262
		5G WLAN	0.344	
LTE + 2.4G WLAN	Head	LTE	0.434	0.48
		2.4G WLAN	0.046	
	Body	LTE	1.227	1.257
		2.4G WLAN	0.03	
LTE + Bluetooth	Head	LTE	0.434	0.643
		Bluetooth	0.209	
	Body	LTE	1.227	1.436
		Bluetooth	0.209	
LTE + 5G WLAN	Head	LTE	0.434	0.778
		5G WLAN	0.344	
	Body	LTE	1.227	1.571
		5G WLAN	0.344	

Simultaneous transmission SAR test exclusion is determined for each operating configuration and exposure condition according to the reported standalone SAR of each applicable simultaneous transmitting antenna.

When the sum of SAR 1g of all simultaneously transmitting antennas in an operating mode and exposure condition combination is within the SAR limit (SAR-1g 1.6 W/kg), the simultaneous transmission SAR is not required. When the sum of SAR 1g is greater than the SAR limit (SAR-1g 1.6 W/kg), SAR test exclusion is determined by the SPLSR.



13. Equipment List

Kind of Equipment	Manufacturer	Type No.	Serial No.	Last Calibration	Calibrated Until
750MHz Dipole	MVG	SID750	SN 30/14 DIP0G750-331	2020.07.14	2023.07.13
835MHz Dipole	MVG	SID835	SN 30/14 DIP0G835-332	2020.07.14	2023.07.13
1800MHz Dipole	MVG	SID1800	SN 30/14 DIP1G800-329	2020.07.14	2023.07.13
1900MHz Dipole	MVG	SID1900	SN 30/14 DIP1G900-333	2020.07.14	2023.07.13
2450MHz Dipole	MVG	SID2450	SN 30/14 DIP2G450-335	2020.07.14	2023.07.13
2600MHz Dipole	MVG	SID2600	SN 30/14 DIP2G600-336	2020.07.14	2023.07.13
E-Field Probe	MVG	SSE2	SN 07/21 EPGO352	2021.03.01	2022.02.28
Dielectric Probe Kit	MVG	SCLMP	SN 32/14 OCPG67	2020.11.24	2021.11.23
Antenna	MVG	ANTA3	SN 07/13 ZNTA52	N/A	N/A
Phantom1	MVG	SAM	SN 32/14 SAM115	N/A	N/A
Phantom2	MVG	SAM	SN 32/14 SAM116	N/A	N/A
Phone holder	MVG	N/A	SN 32/14 MSH97	N/A	N/A
Laptop holder	MVG	N/A	SN 32/14 LSH29	N/A	N/A
Attenuator	Agilent	99899	DC-18GHz	N/A	N/A
Directional coupler	Narda	4226-20	3305	N/A	N/A
Network Analyzer	Agilent	8753ES	US38432810	2020.10.12	2021.10.11
Multi Meter	Keithley	Multi Meter 2000	4050073	2020.10.10	2021.10.09
Signal Generator	Agilent	N5182A	MY50140530	2020.10.10	2021.10.09
Wireless Communication Test Set	Agilent	8960-E5515C	MY48360751	2020.10.10	2021.10.09
Wireless Communication Test Set	R&S	CMW500	117239	2020.10.10	2021.10.09
Power Amplifier	DESAY	ZHL-42W	9638	2020.10.12	2021.10.11
Power Meter	R&S	NRP	100510	2020.10.10	2021.10.09
Power Meter	Agilent	E4419B	QB43312265	2020.10.10	2021.10.09
Power Sensor	R&S	NRP-Z11	101919	2020.10.10	2021.10.09
Power Sensor	HP	E9300A	US39210170	2020.10.10	2021.10.09
Temperature hygrometer	SuWei	SW-108	N/A	2020.10.12	2021.10.11
Thermograph	Elitech	RC-4	S/N EF7176501537	2020.10.12	2021.10.11

Note:

Per KDB 865664 D01, Dipole SAR Validation Verification, STS LAB has adopted 3 years calibration intervals. On annual basis, every measurement dipole has been evaluated and is in compliance with the following criteria:

1. There is no physical damage on the dipole
2. System validation with specific dipole is within 10% of calibrated value Return-loss in within 20% of calibrated measurement

Appendix A. System Validation Plots

System Performance Check Data (750MHz)

Type: Phone measurement (Complete)

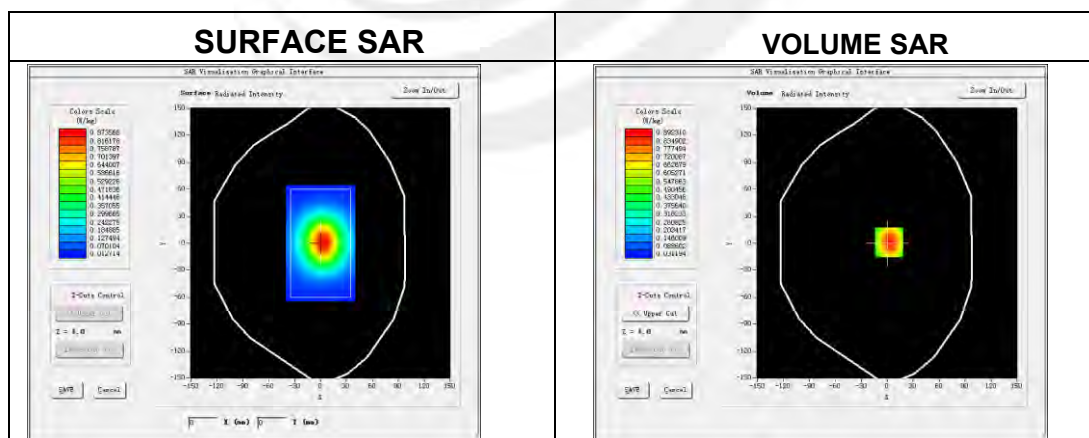
Area scan resolution: dx=8mm, dy=8mm

Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 2021-03-29

Experimental conditions

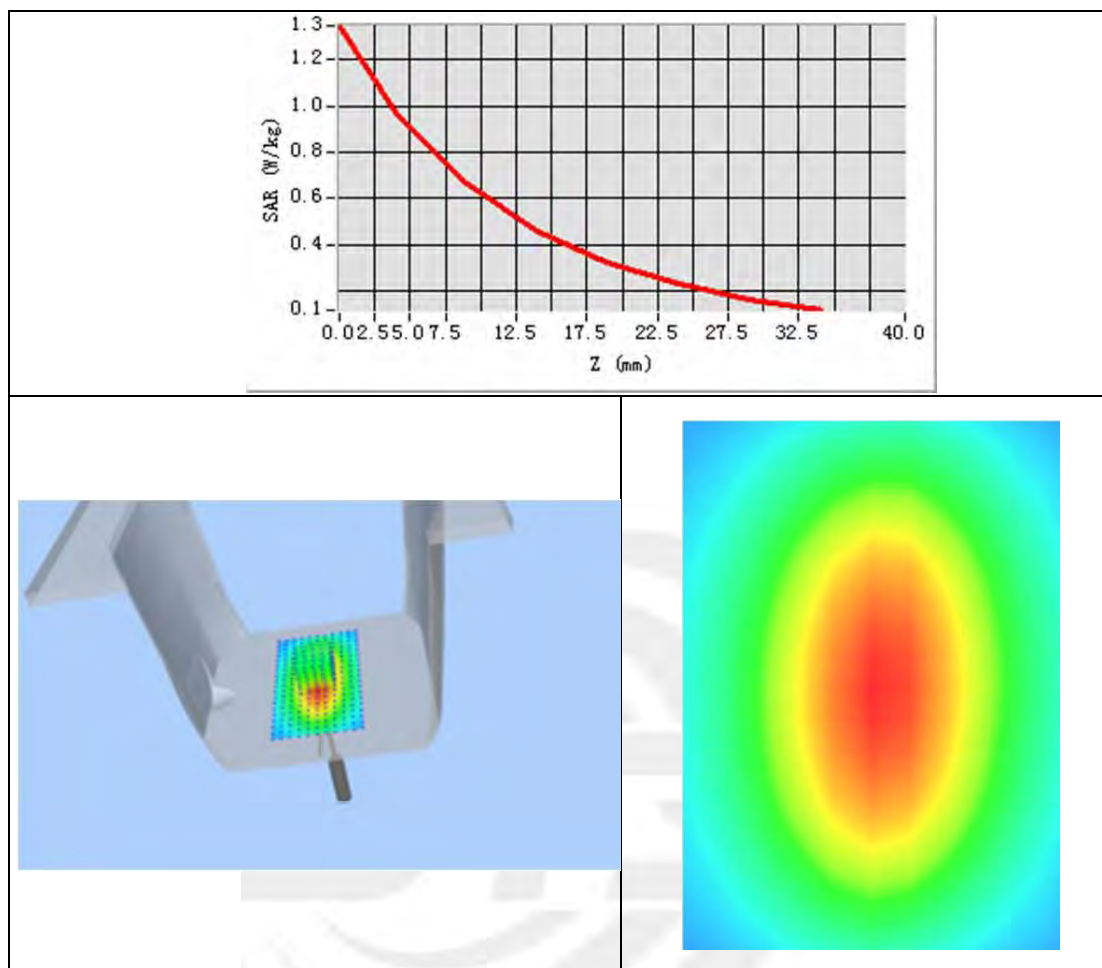
Phantom	Validation plane
Device Position	-
Band	750MHz
Channels	-
Signal	CW
Frequency (MHz)	750MHz
Relative permittivity	41.01
Conductivity (S/m)	0.88
Probe	SN 07/21 EPG0352
ConvF:	1.58
Crest factor:	1:1



Maximum location: X=1.00, Y=0.00

SAR 10g (W/Kg)	0.545644
SAR 1g (W/Kg)	0.850767

Z Axis Scan



**System Performance Check Data (835MHz)**

Type: Phone measurement (Complete)

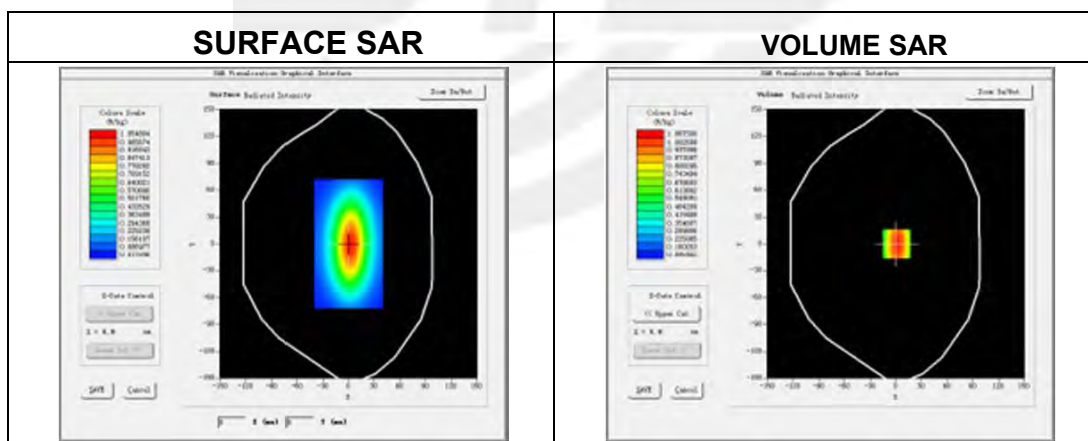
Area scan resolution: dx=8mm, dy=8mm

Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 2021-03-30

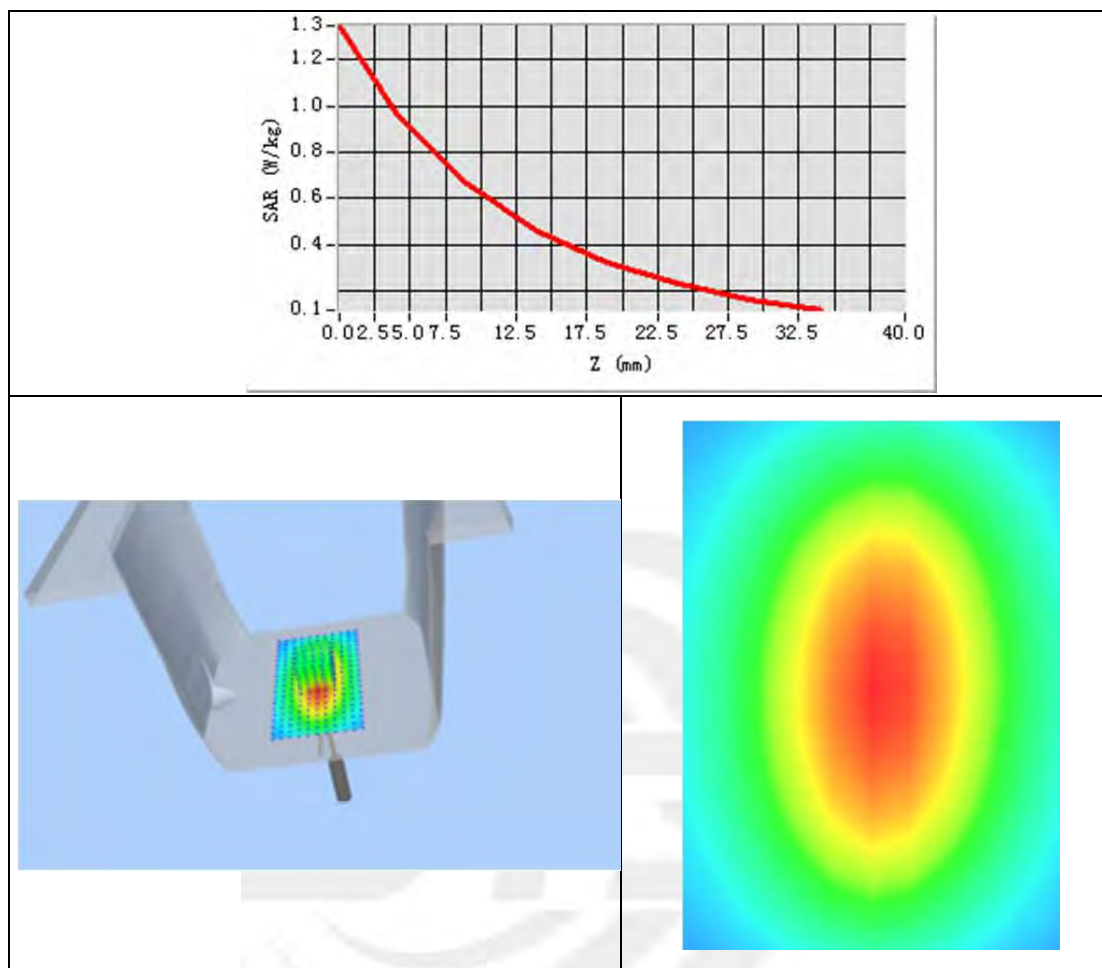
Experimental conditions

Phantom	Validation plane
Device Position	-
Band	835MHz
Channels	-
Signal	CW
Frequency (MHz)	835MHz
Relative permittivity	41.56
Conductivity (S/m)	0.93
Probe	SN 07/21 EPGO352
ConvF:	1.57
Crest factor:	1:1

**Maximum location: X=1.00, Y=0.00**

SAR 10g (W/Kg)	0.622530
SAR 1g (W/Kg)	0.933075

Z Axis Scan



System Performance Check Data (900MHz)

Type: Phone measurement (Complete)

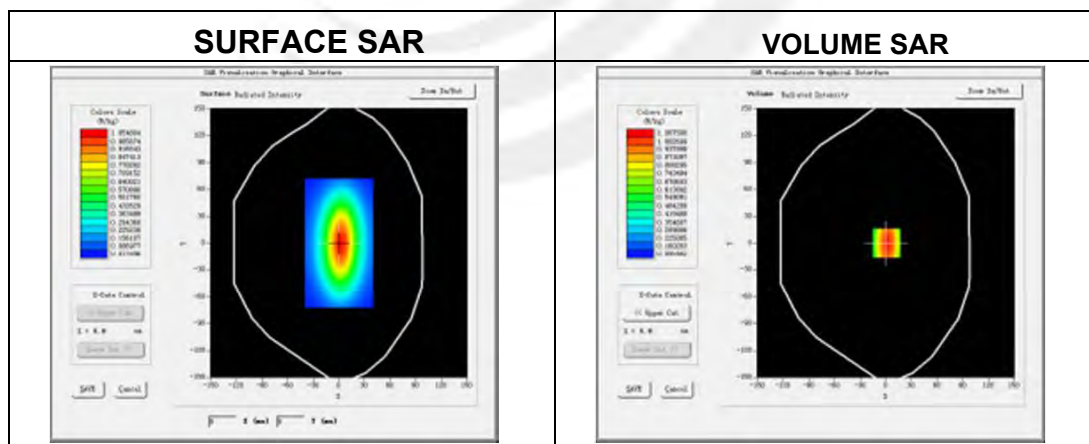
Area scan resolution: dx=8mm, dy=8mm

Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 2021-03-31

Experimental conditions.

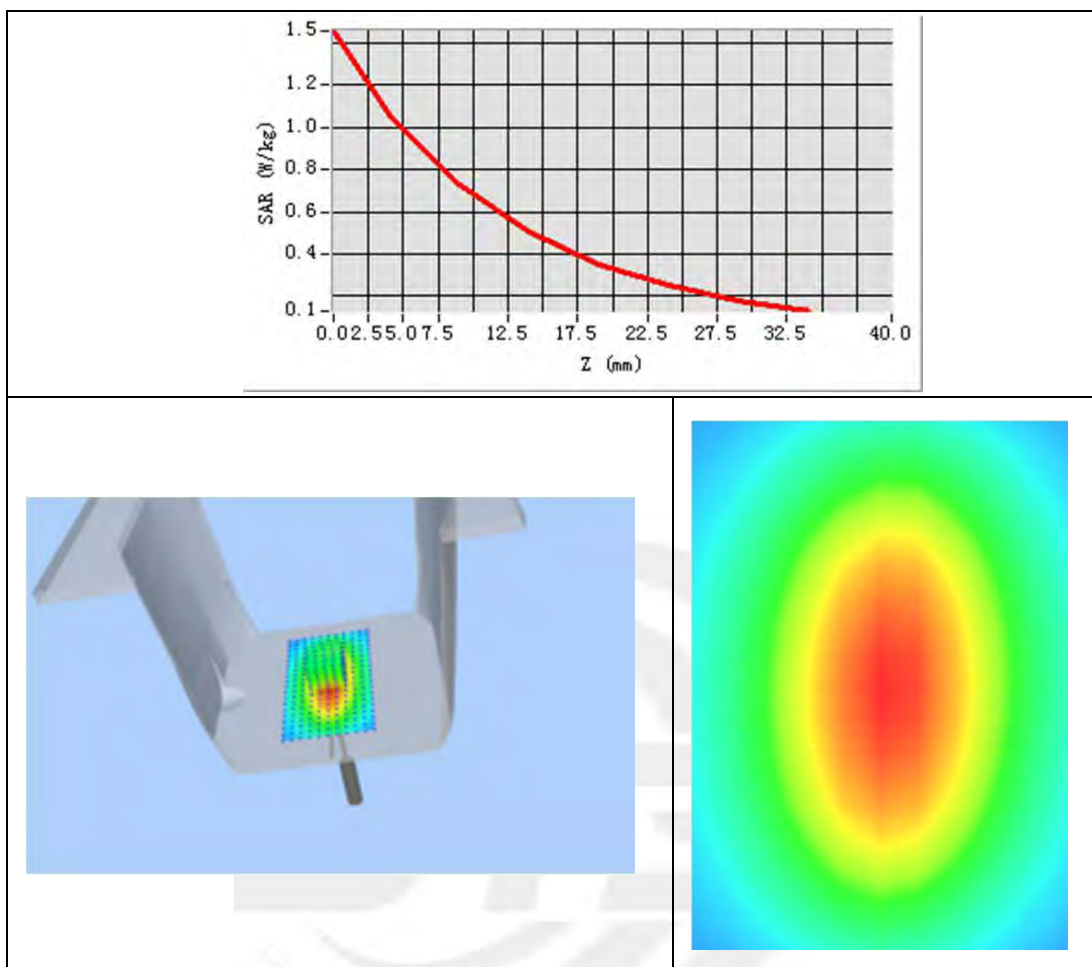
Phantom	Validation plane
Device Position	-
Band	900MHz
Channels	-
Signal	CW
Frequency (MHz)	900MHz
Relative permittivity	40.16
Conductivity (S/m)	0.95
Probe	SN 07/21 EPGO352
ConvF	1.68
Crest factor:	1:1



Maximum location: X=7.00, Y=-1.00

SAR 10g (W/Kg)	0.714919
SAR 1g (W/Kg)	1.099952

Z Axis Scan





System Performance Check Data (1800MHz)

Type: Phone measurement (Complete)

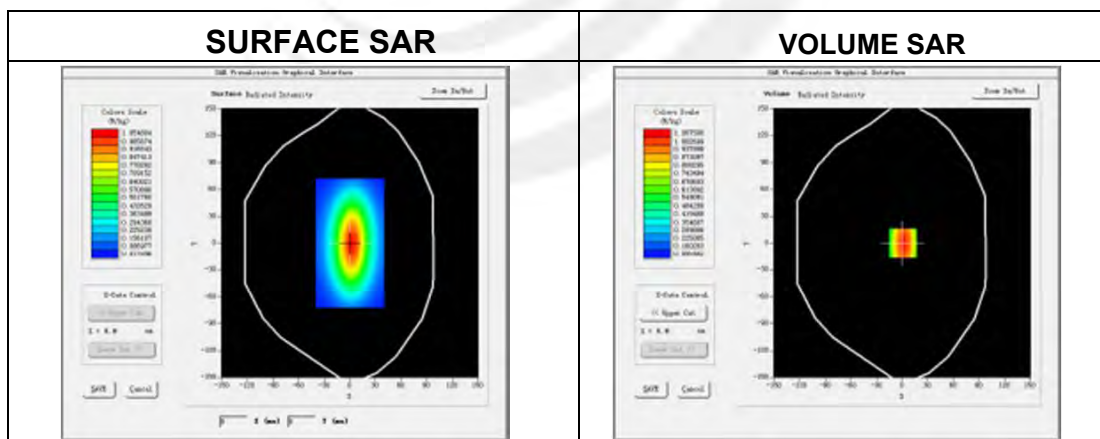
Area scan resolution: dx=8mm, dy=8mm

Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 2021-04-01

Experimental conditions.

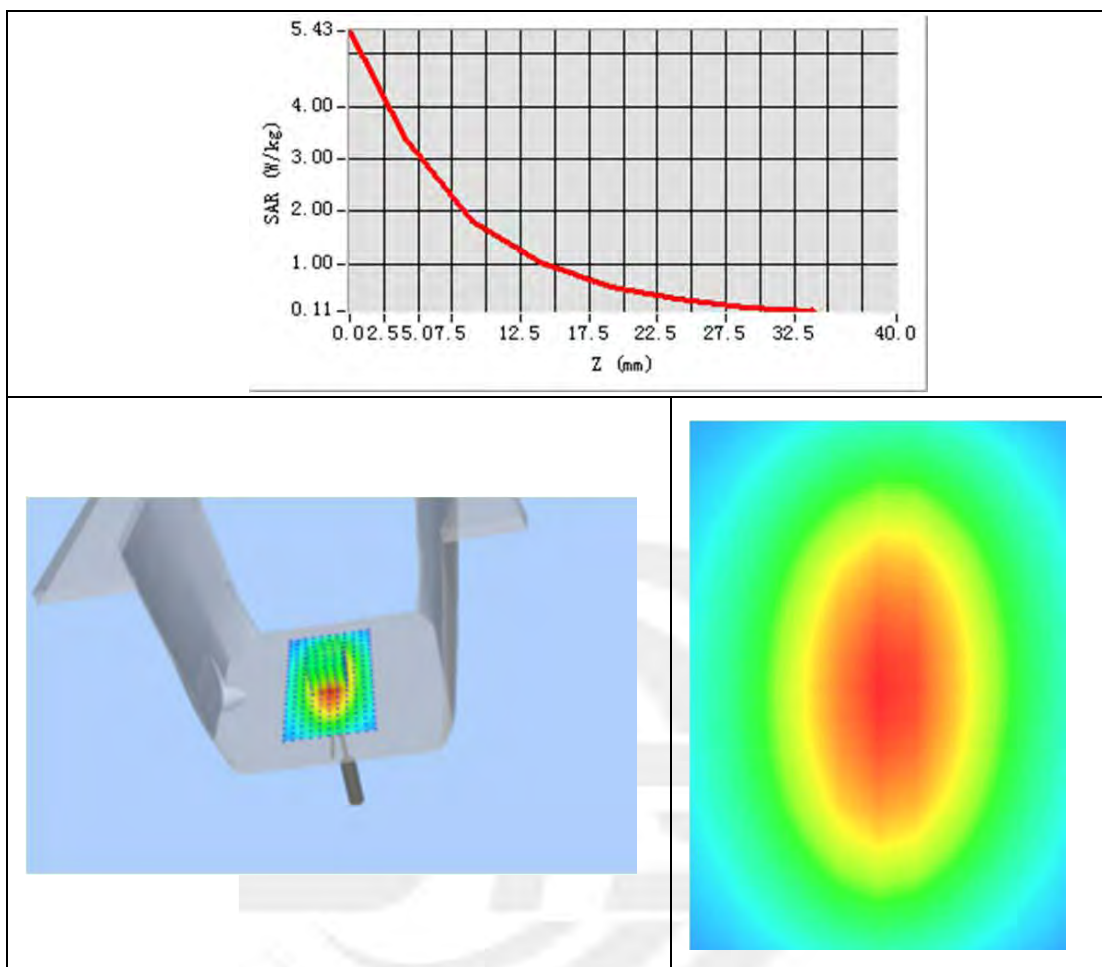
Phantom	Validation plane
Device Position	-
Band	1800MHz
Channels	-
Signal	CW
Frequency (MHz)	1800MHz
Relative permittivity	40.88
Conductivity (S/m)	1.42
Probe	SN 07/21 EPGO352
ConvF	1.60
Crest factor:	1:1



Maximum location: X=7.00, Y=-1.00

SAR 10g (W/Kg)	2.003375
SAR 1g (W/Kg)	3.878250

Z Axis Scan





System Performance Check Data (1900MHz)

Type: Phone measurement (Complete)

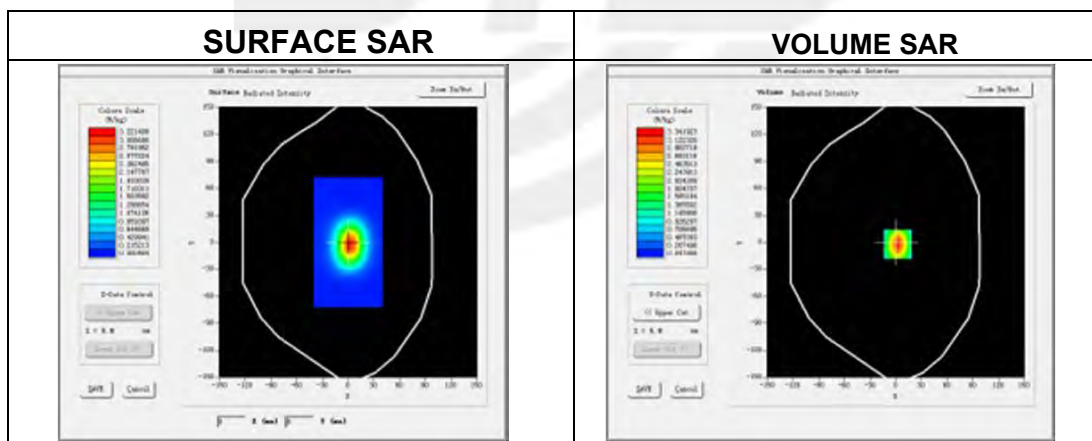
Area scan resolution: dx=8mm, dy=8mm

Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 2021-04-02

Experimental conditions.

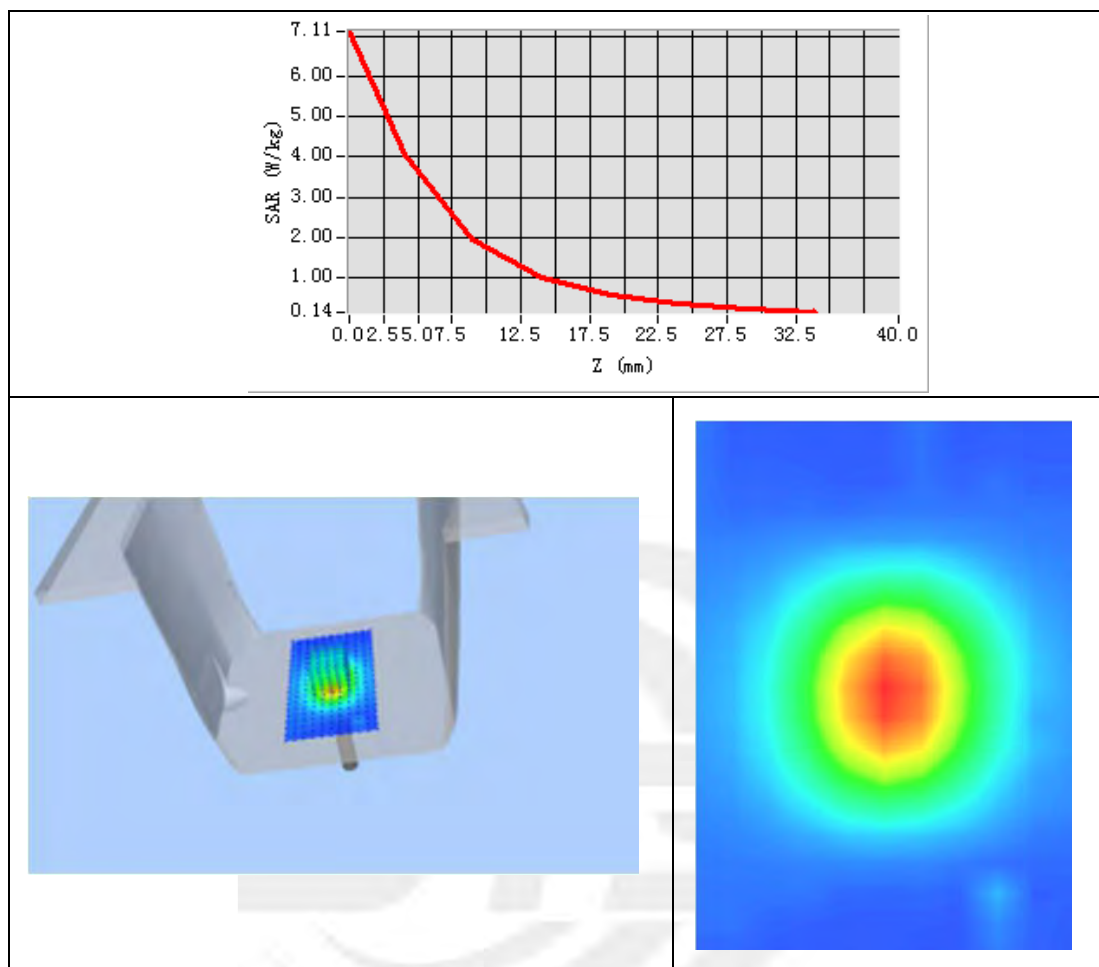
Device Position	Validation plane
Band	1900MHz
Channels	-
Signal	CW
Frequency (MHz)	1900
Relative permittivity	39.16
Conductivity (S/m)	1.43
Probe	SN 07/21 EPGO352
ConvF	1.78
Crest factor:	1:1



Maximum location: X=2.00, Y=2.00

SAR 10g (W/Kg)	2.089966
SAR 1g (W/Kg)	3.961908

Z Axis Scan





System Performance Check Data (2450MHz)

Type: Phone measurement (Complete)

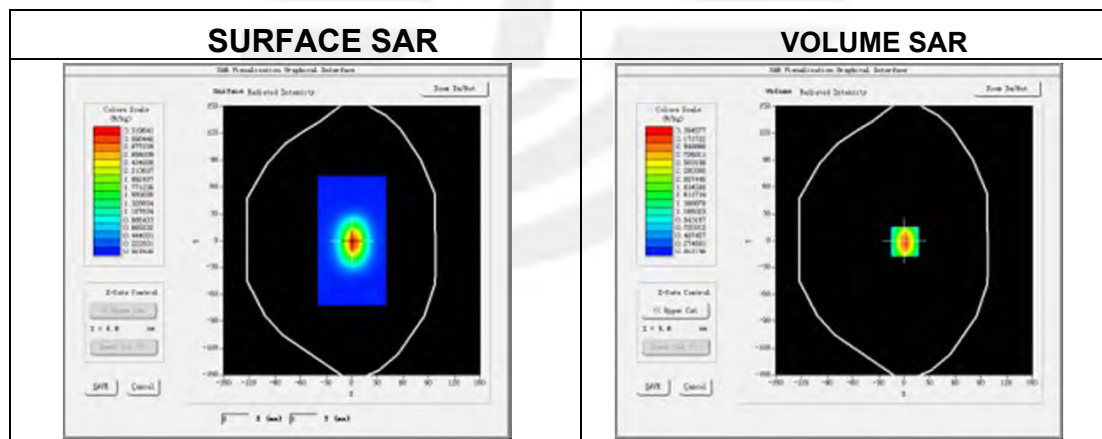
Area scan resolution: dx=8mm, dy=8mm

Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 2021-04-06

Experimental conditions.

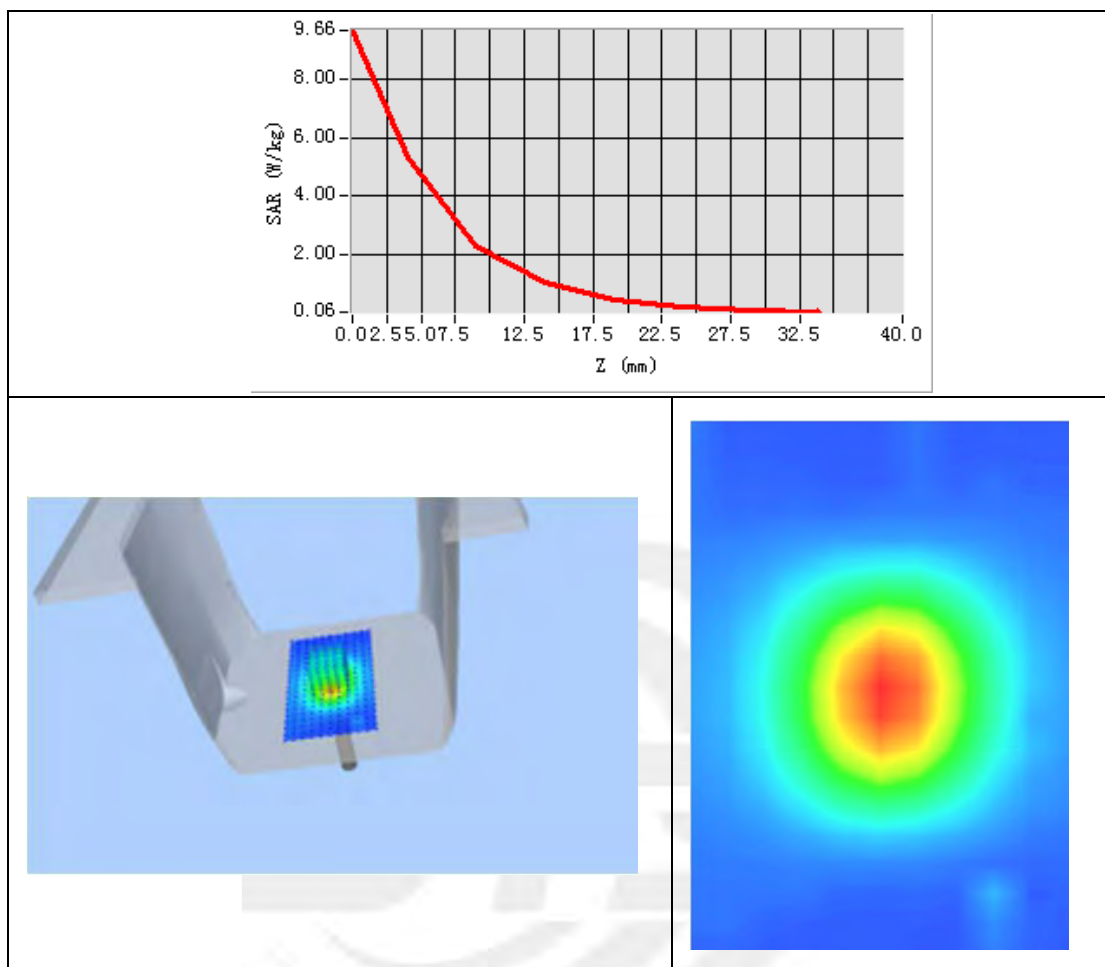
Device Position	Validation plane
Band	2450 MHz
Channels	-
Signal	CW
Frequency (MHz)	2450
Relative permittivity	40.69
Conductivity (S/m)	1.85
Probe	SN 07/21 EPG0352
ConvF	1.75
Crest factor:	1:1



Maximum location: X=3.00, Y=1.00

SAR 10g (W/Kg)	2.497205
SAR 1g (W/Kg)	5.222823

Z Axis Scan





System Performance Check Data (2600MHz)

Type: Phone measurement (Complete)

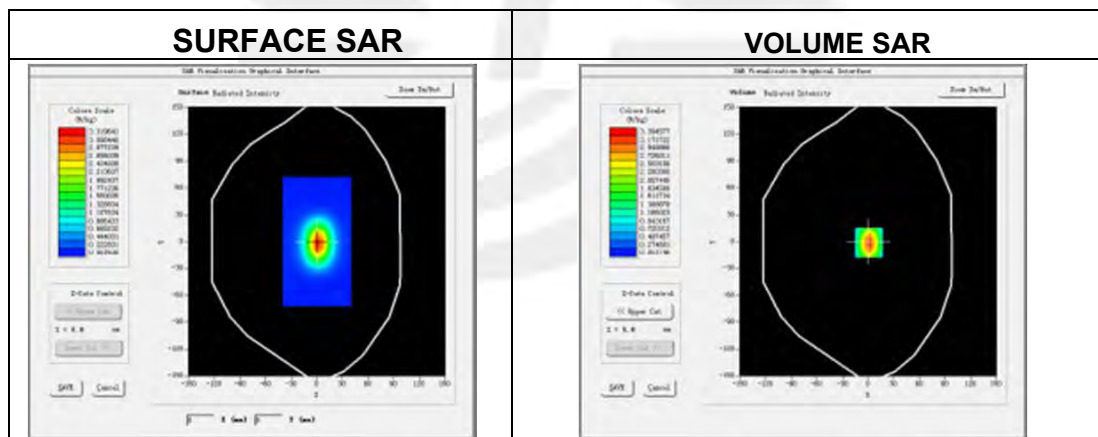
Area scan resolution: dx=8mm, dy=8mm

Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 2021-04-07

Experimental conditions.

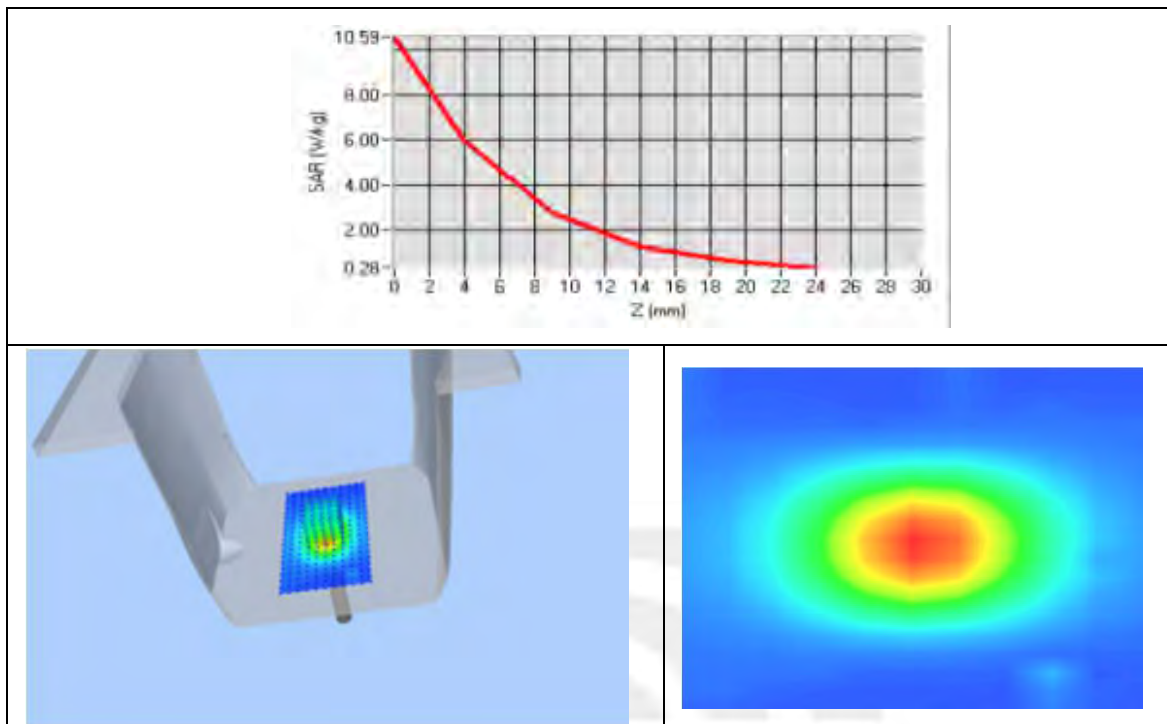
Device Position	Validation plane
Band	2600 MHz
Channels	-
Signal	CW
Frequency (MHz)	2600
Relative permittivity	40.03
Conductivity (S/m)	1.91
Probe	SN 07/21 EPGO352
ConvF	1.63
Crest factor:	1:1



Maximum location: X=3.00, Y=1.00

SAR 10g (W/Kg)	2.406229
SAR 1g (W/Kg)	5.501154

Z Axis Scan



Appendix B. SAR Test Plots

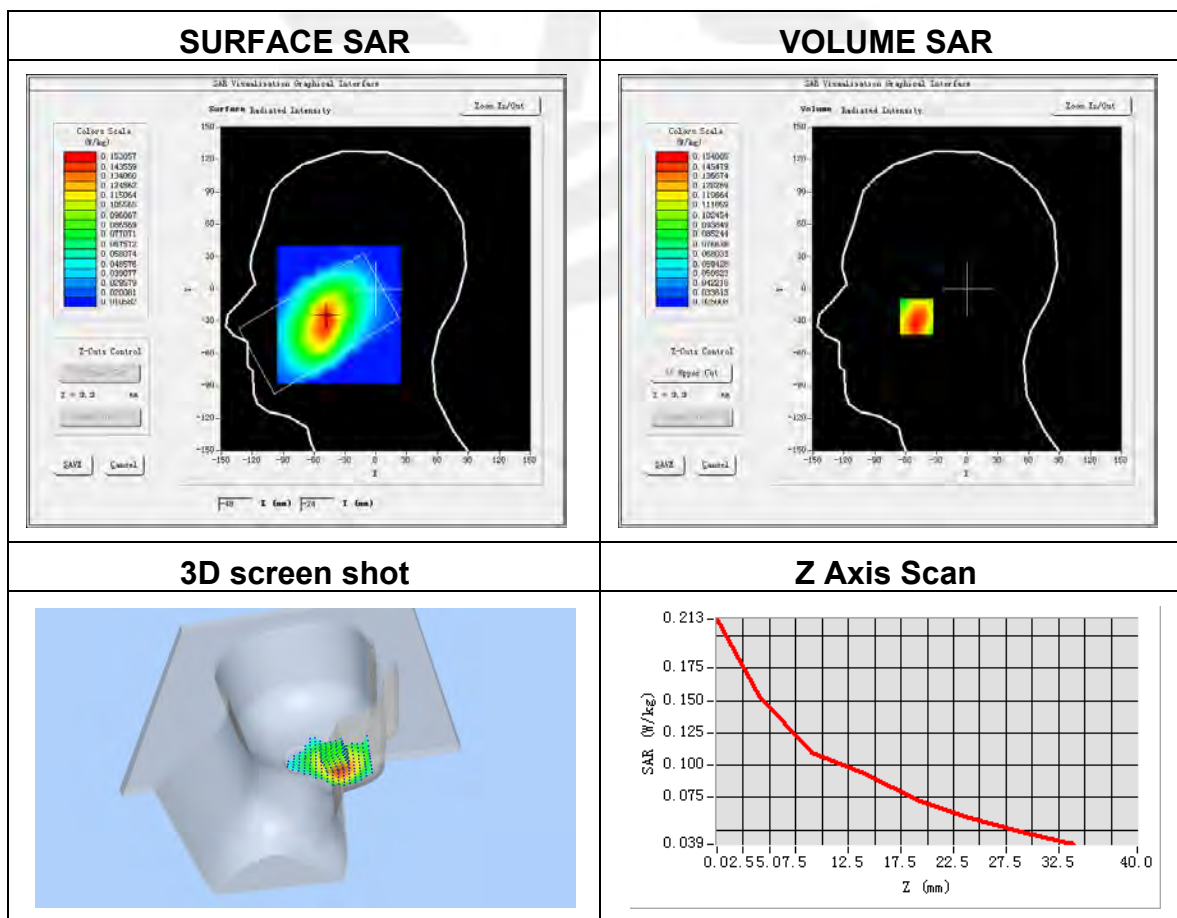
Plot 1: DUT: Smart phone; EUT Model: Titan pocket

Test Date	2021-03-30
Probe	SN 07/21 EPGO352
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm, Complete/ndx=8mm, dy=8mm, h= 5.00 mm
Phantom	Left head
Device Position	Cheek
Band	GPRS 850
Channels	High
Signal	Duty Cycle: 2.00 (Crest factor: 2.0)
Frequency (MHz)	848.8
Relative permittivity (real part)	41.50
Conductivity (S/m)	0.90

Maximum location: X=-49.00, Y=-26.00

SAR Peak: 0.20 W/kg

SAR 10g (W/Kg)	0.106913
SAR 1g (W/Kg)	0.147390



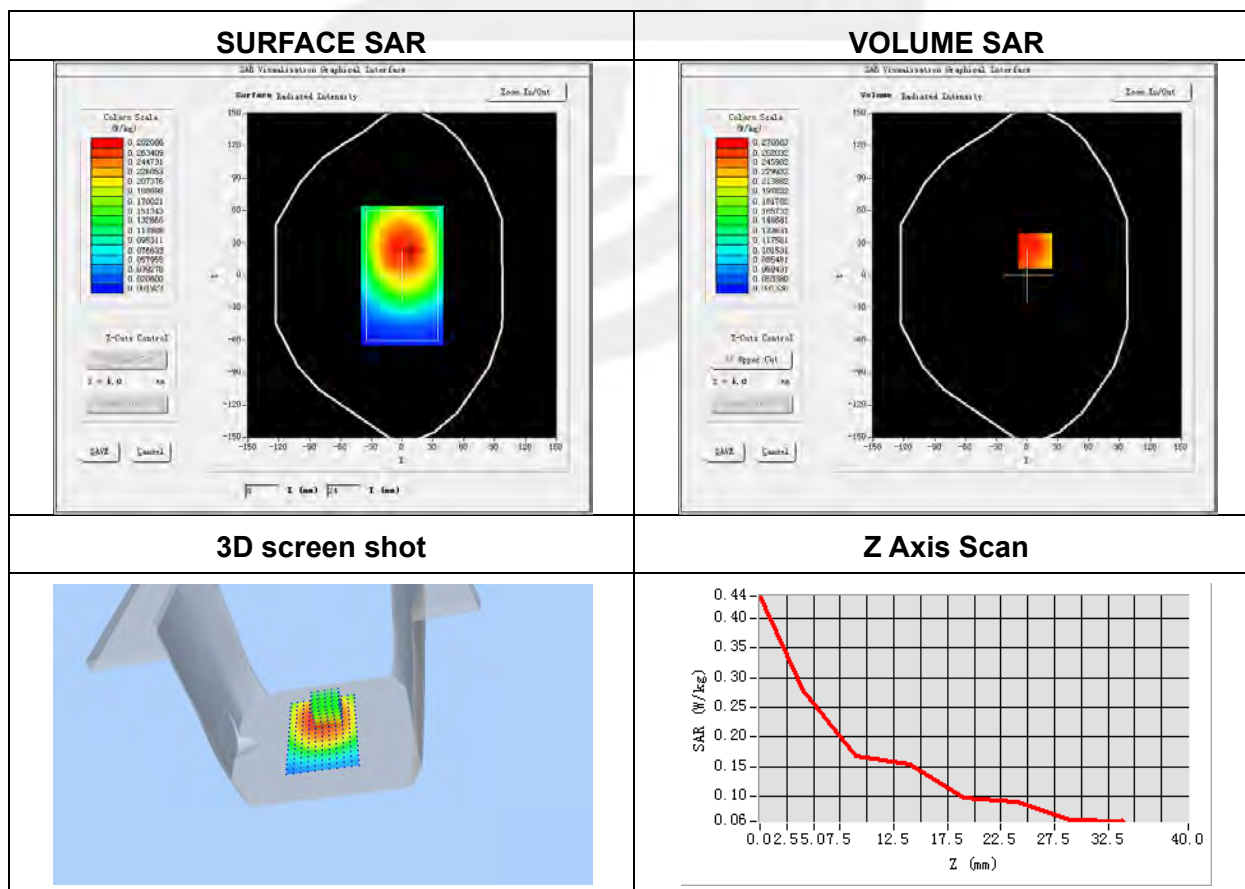
Plot 2: DUT: Smart phone; EUT Model: Titan pocket

Test Date	2021-03-30
Probe	SN 07/21 EPG0352
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm, Complete/ndx=8mm, dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Back Side
Band	GPRS 850
Channels	High
Signal	Duty Cycle: 2.00 (Crest factor: 2.0)
Frequency (MHz)	848.8
Relative permittivity (real part)	42.40
Conductivity (S/m)	0.89

Maximum location: X=8.00, Y=23.00

SAR Peak: 0.37 W/kg

SAR 10g (W/Kg)	0.197802
SAR 1g (W/Kg)	0.264034



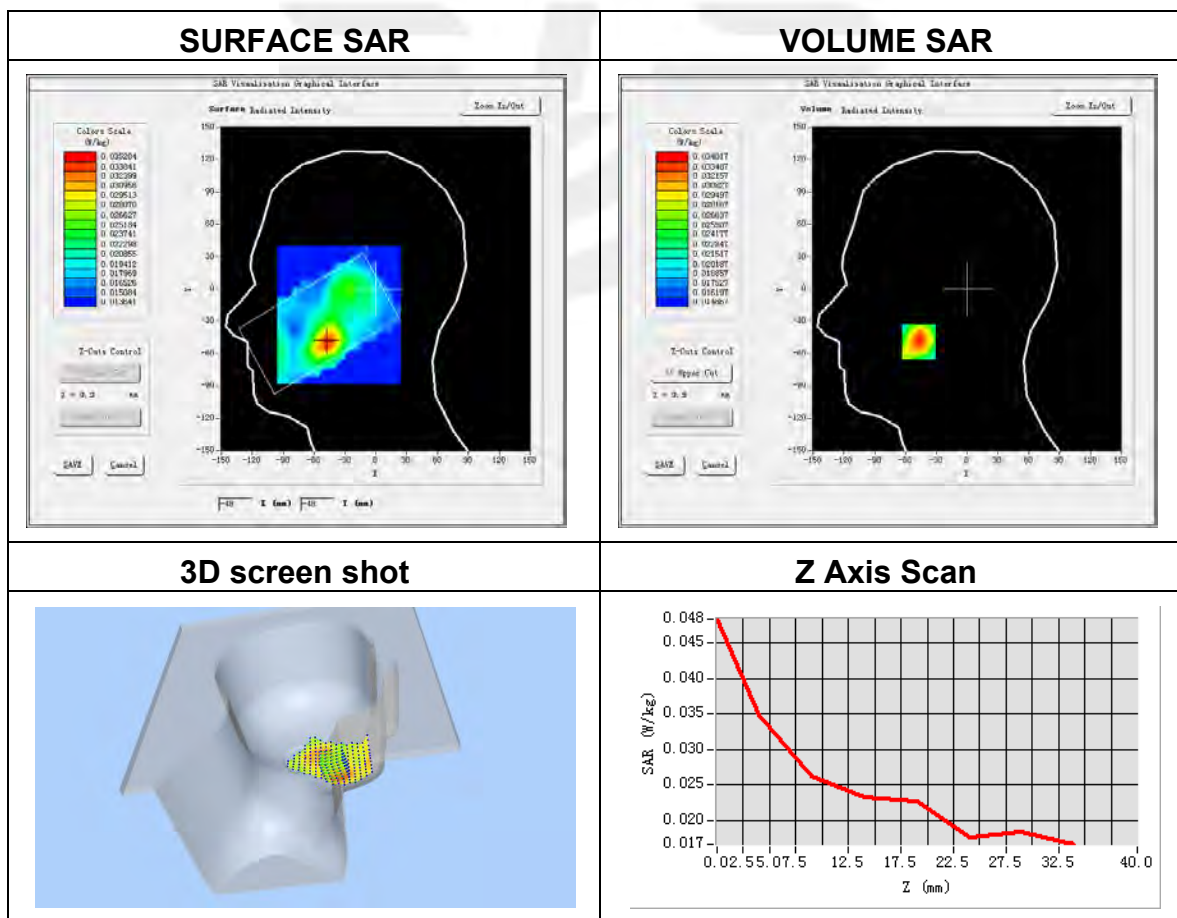
Plot 3: DUT: Smart phone; EUT Model: Titan pocket

Test Date	2021-04-02
Probe	SN 07/21 EPGO352
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm, Complete/ndx=8mm, dy=8mm, h= 5.00 mm
Phantom	Left head
Device Position	Cheek
Band	GPRS 1900
Channels	Low
Signal	Duty Cycle: 2.00 (Crest factor: 2.0)
Frequency (MHz)	1850.2
Relative permittivity (real part)	40.05
Conductivity (S/m)	1.37

Maximum location: X=-47.00, Y=-49.00

SAR Peak: 0.05 W/kg

SAR 10g (W/Kg)	0.025912
SAR 1g (W/Kg)	0.034614



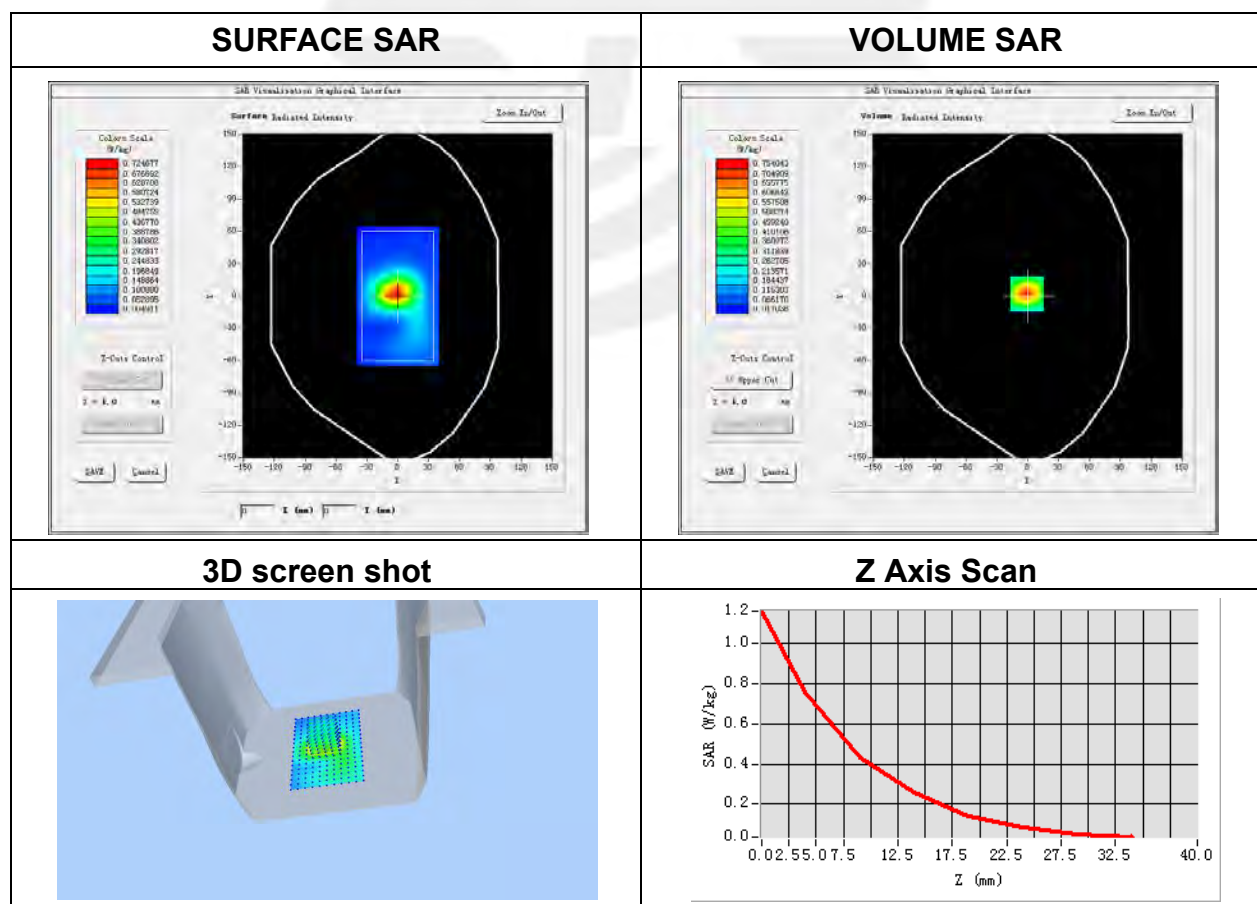
Plot 4: DUT: Smart phone; EUT Model: Titan pocket

Test Date	2021-04-02
Probe	SN 07/21 EPG0352
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm, Complete/ndx=8mm, dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Back side
Band	GPRS 1900
Channels	Low
Signal	Duty Cycle: 2.00 (Crest factor: 2.0)
Frequency (MHz)	1850.2
Relative permittivity (real part)	40.05
Conductivity (S/m)	1.37

Maximum location: X=-1.00, Y=2.00

SAR Peak: 1.15 W/kg

SAR 10g (W/Kg)	0.361131
SAR 1g (W/Kg)	0.694859



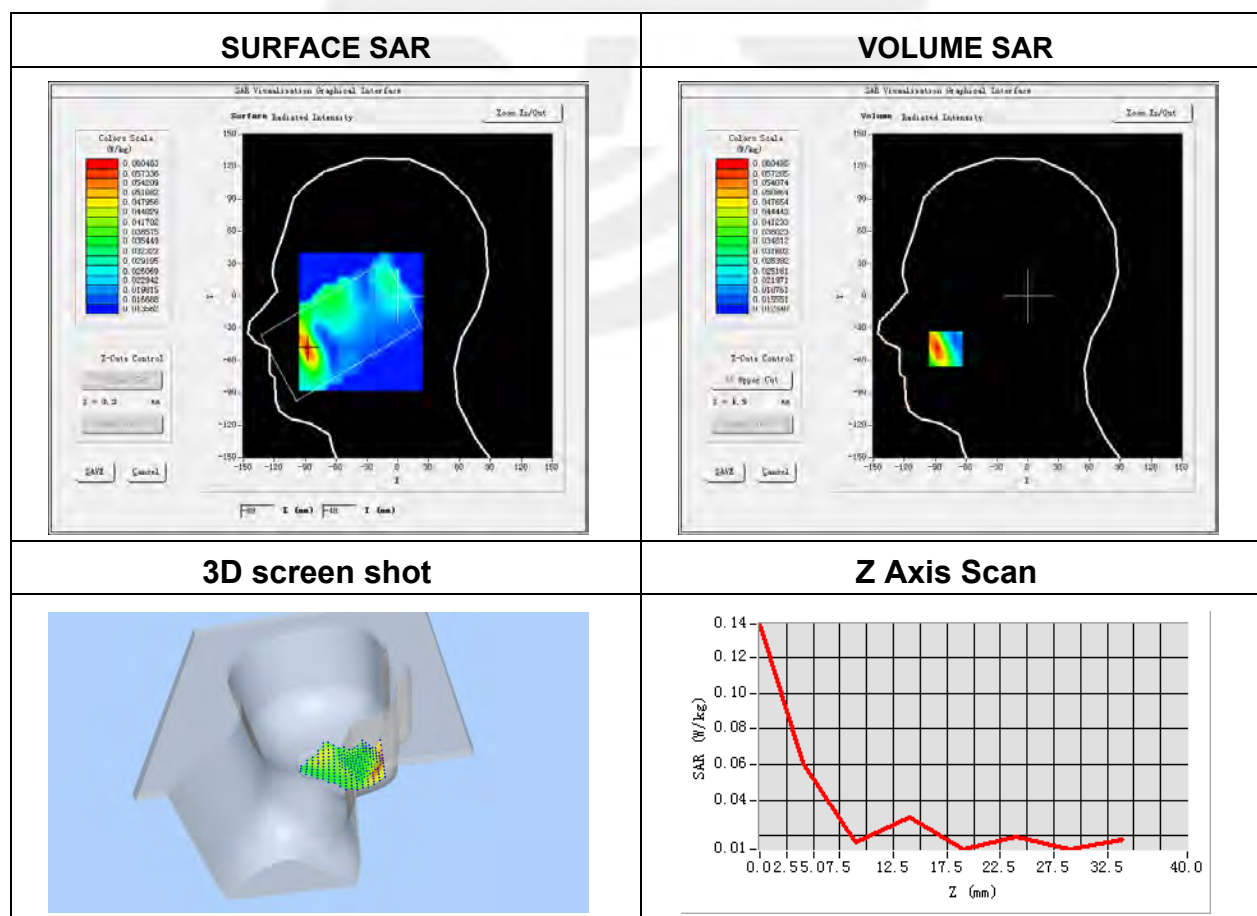
Plot 5: DUT: Smart phone; EUT Model: Titan pocket

Test Date	2021-04-02
Probe	SN 07/21 EPG0352
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm, Complete/ndx=8mm, dy=8mm, h= 5.00 mm
Phantom	Left head
Device Position	Cheek
Band	WCDMA II
Channels	Low
Signal	WCDMA (Crest factor: 1.0)
Frequency (MHz)	1852.4
Relative permittivity (real part)	40.05
Conductivity (S/m)	1.37

Maximum location: X=-80.00, Y=-49.00

SAR Peak: 0.09 W/kg

SAR 10g (W/Kg)	0.036980
SAR 1g (W/Kg)	0.058779



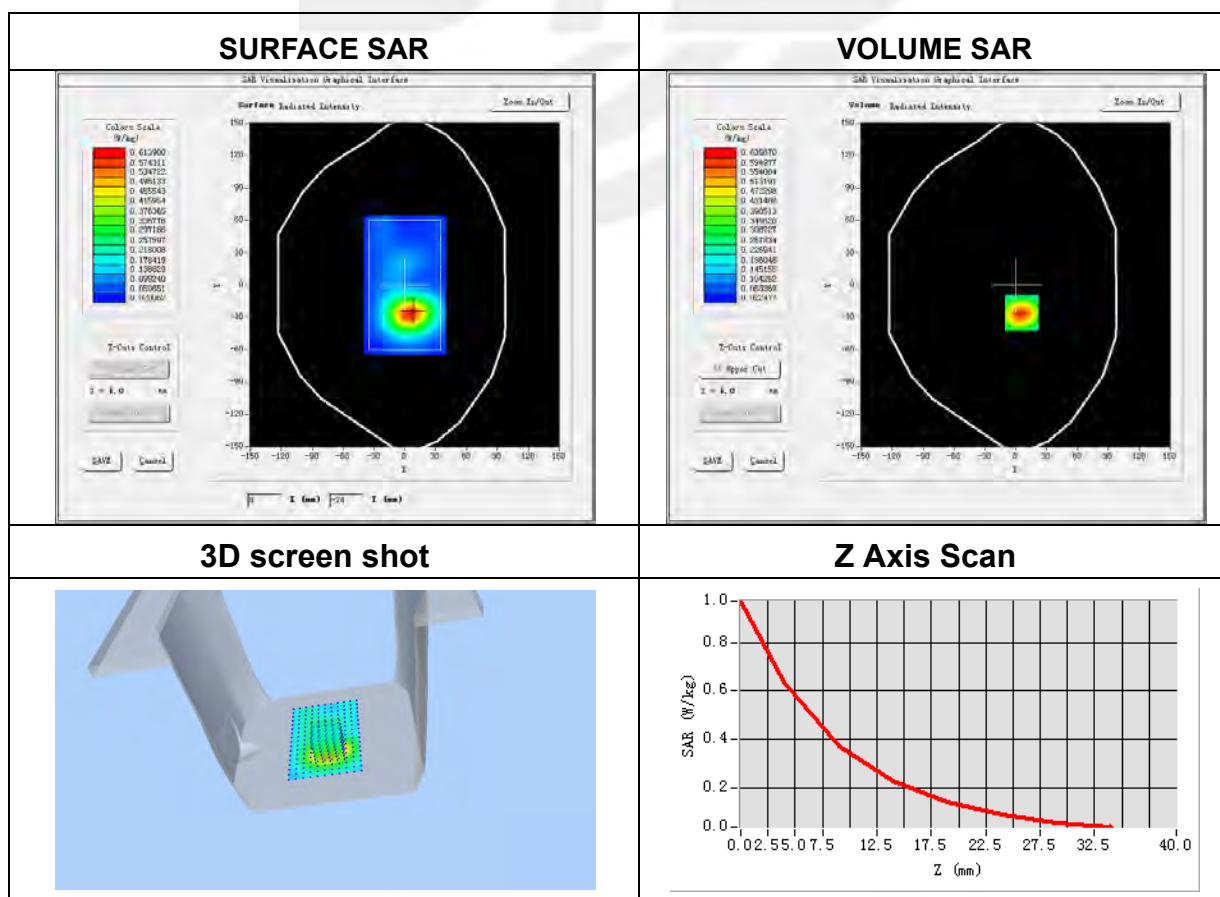
Plot 6: DUT: Smart phone; EUT Model: Titan pocket

Test Date	2021-04-02
Probe	SN 07/21 EPG0352
ConvF	1.84
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm, Complete/ndx=8mm, dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Bottom Side
Band	WCDMA II
Channels	Low
Signal	WCDMA (Crest factor: 1.0)
Frequency (MHz)	1852.4
Relative permittivity (real part)	40.05
Conductivity (S/m)	1.37

Maximum location: X=6.00, Y=-26.00

SAR Peak: 0.97 W/kg

SAR 10g (W/Kg)	0.329861
SAR 1g (W/Kg)	0.609797



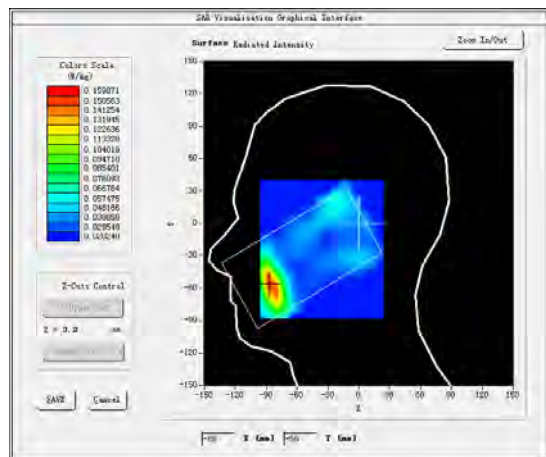
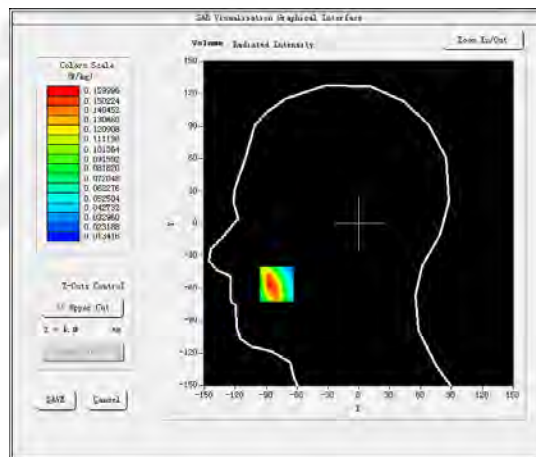
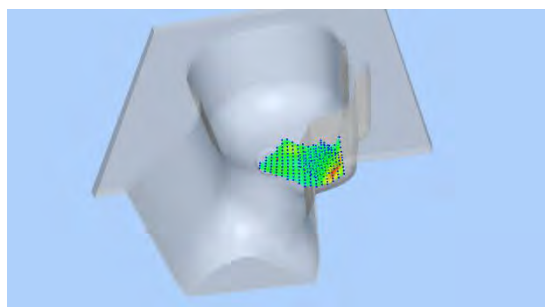
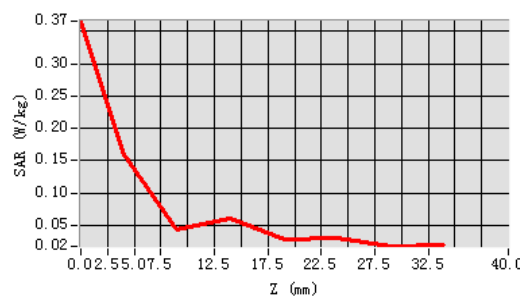
Plot 7: DUT: Smart phone; EUT Model: Titan pocket

Test Date	2021-04-01
Probe	SN 07/21 EPG0352
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm, Complete/ndx=8mm, dy=8mm, h= 5.00 mm
Phantom	Left head
Device Position	Cheek
Band	WCDMA IV
Channels	Mid
Signal	WCDMA (Crest factor: 1.0)
Frequency (MHz)	1740
Relative permittivity (real part)	39.86
Conductivity (S/m)	1.33

Maximum location: X=-80.00, Y=-56.00

SAR Peak: 0.27 W/kg

SAR 10g (W/Kg)	0.087591
SAR 1g (W/Kg)	0.158854

SURFACE SAR

VOLUME SAR

3D screen shot

Z Axis Scan


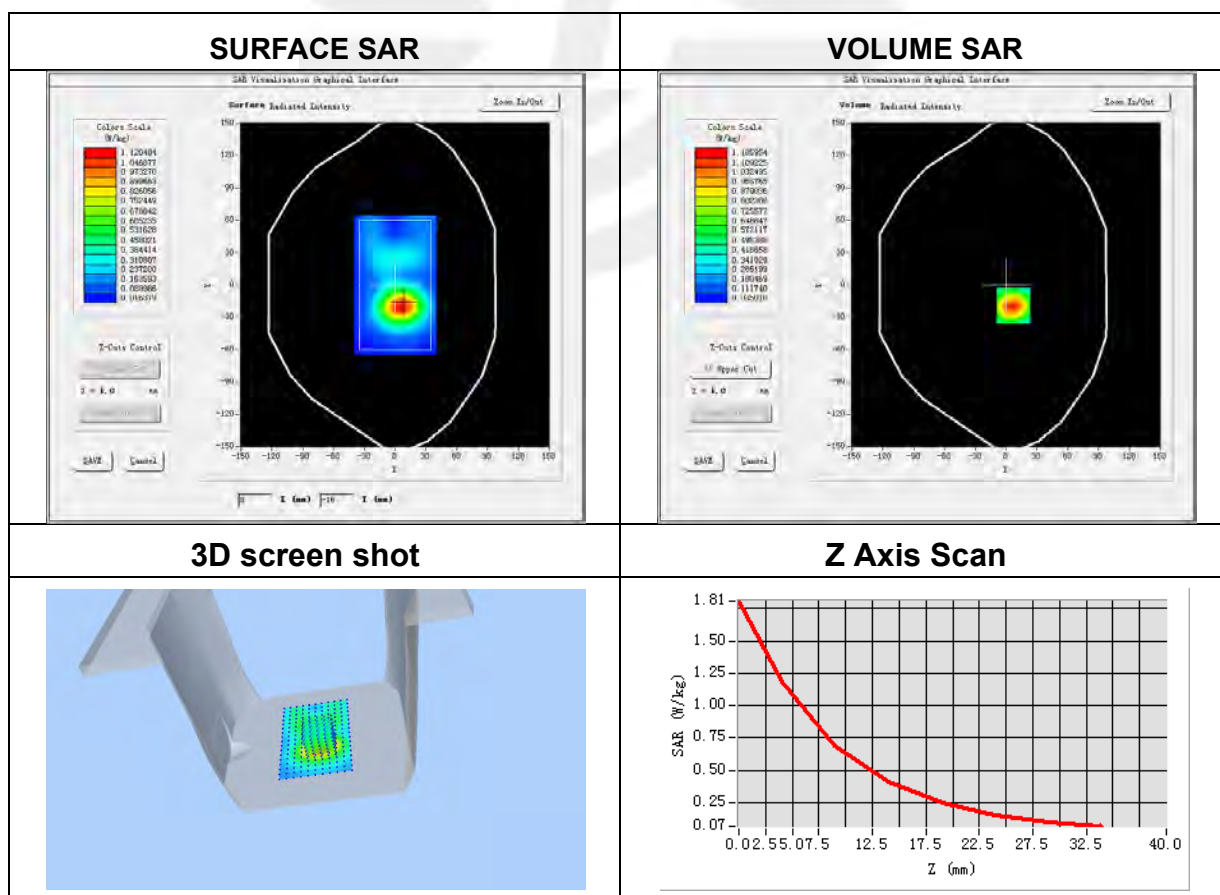
Plot 8: DUT: Smart phone; EUT Model: Titan pocket

Test Date	2021-04-01
Probe	SN 07/21 EPGO352
ConvF	1.60
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm, Complete/ndx=8mm, dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Front Side
Band	WCDMA IV
Channels	Mid
Signal	WCDMA (Crest factor: 1.0)
Frequency (MHz)	1740
Relative permittivity (real part)	39.86
Conductivity (S/m)	1.33

Maximum location: X=7.00, Y=-19.00

SAR Peak: 1.80 W/kg

SAR 10g (W/Kg)	0.605547
SAR 1g (W/Kg)	1.125678



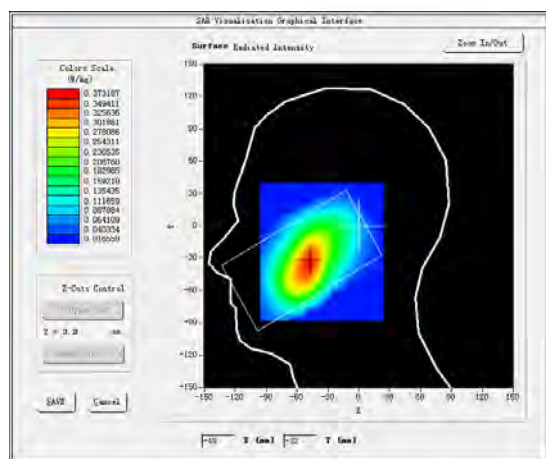
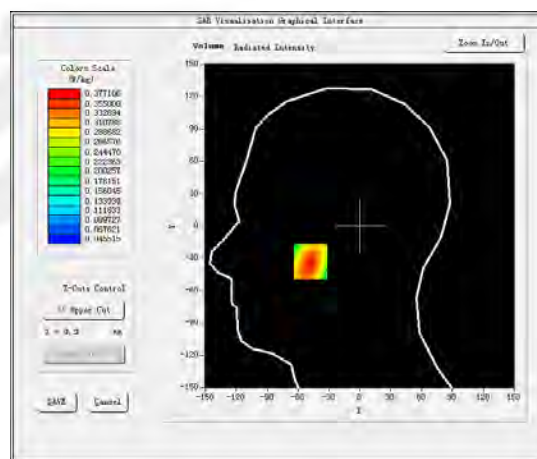
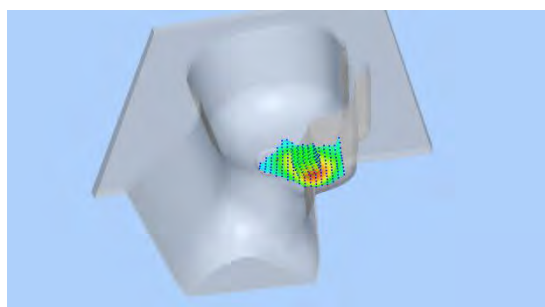
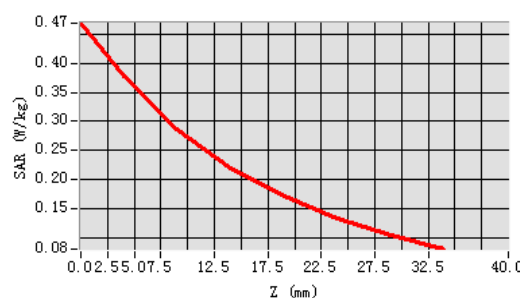
Plot 9: DUT: Smart phone; EUT Model: Titan pocket

Test Date	2021-03-30
Probe	SN 07/21 EPG0352
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm, Complete/ndx=8mm, dy=8mm, h= 5.00 mm
Phantom	Left head
Device Position	Cheek
Band	WCDMA V
Channels	High
Signal	WCDMA (Crest factor: 1.0)
Frequency (MHz)	846.6
Relative permittivity (real part)	42.40
Conductivity (S/m)	0.89

Maximum location: X=-48.00, Y=-33.00

SAR Peak: 0.47 W/kg

SAR 10g (W/Kg)	0.257804
SAR 1g (W/Kg)	0.361863

SURFACE SAR

VOLUME SAR

3D screen shot

Z Axis Scan


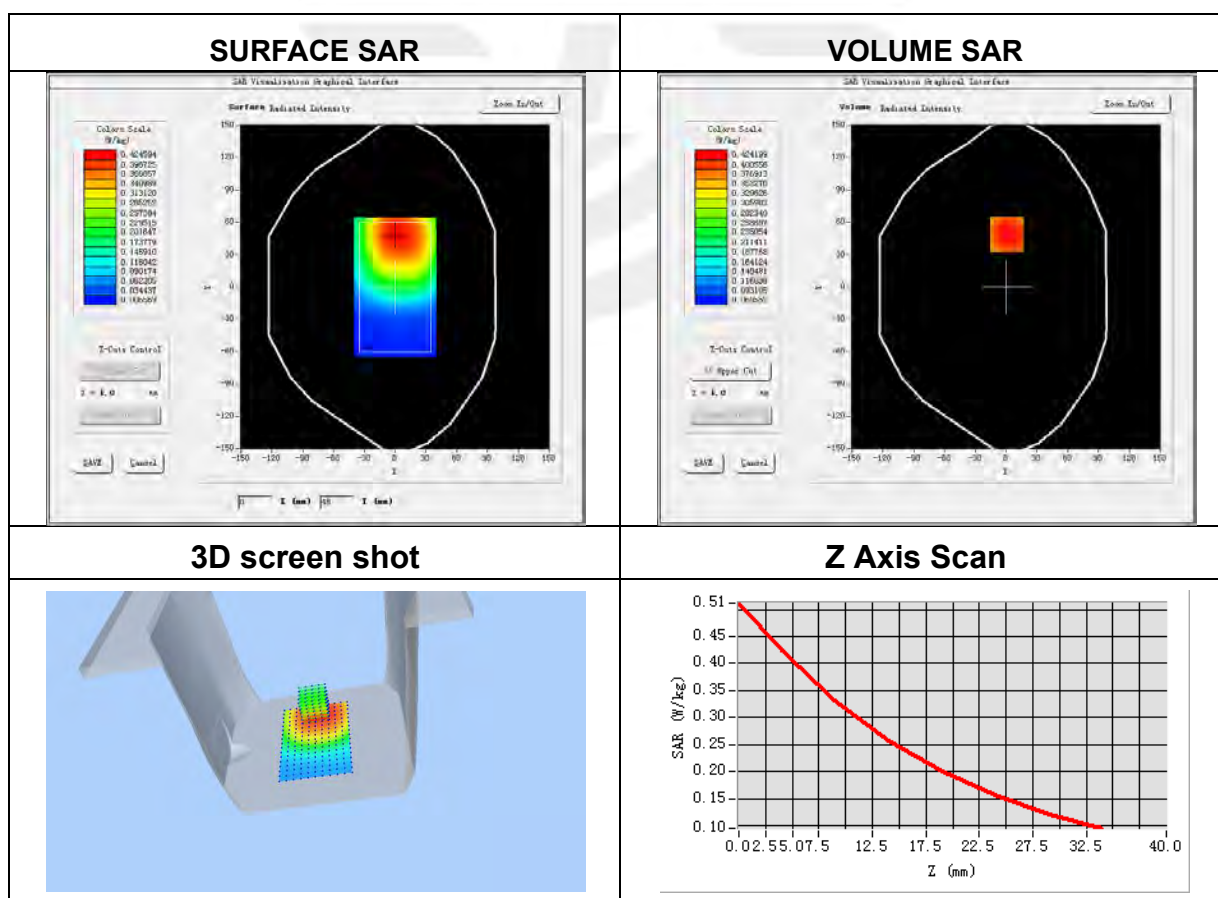
Plot 10: DUT: Smart phone; EUT Model: Titan pocket

Test Date	2021-03-30
Probe	SN 07/21 EPGO352
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm, Complete/ndx=8mm, dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Back Side
Band	WCDMA V
Channels	High
Signal	WCDMA (Crest factor: 1.0)
Frequency (MHz)	846.6
Relative permittivity (real part)	42.40
Conductivity (S/m)	0.89

Maximum location: X=1.00, Y=49.00

SAR Peak: 0.52 W/Kg

SAR 10g (W/Kg)	0.311495
SAR 1g (W/Kg)	0.413713



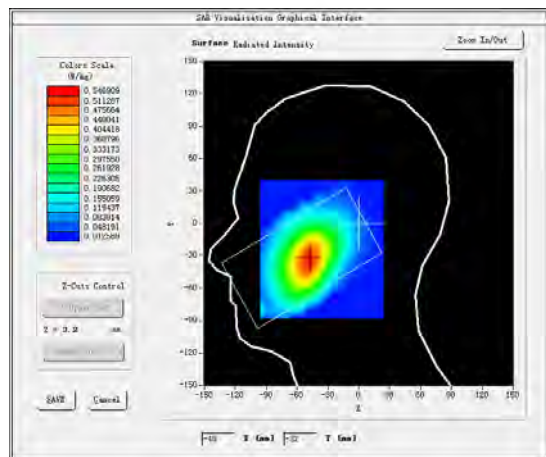
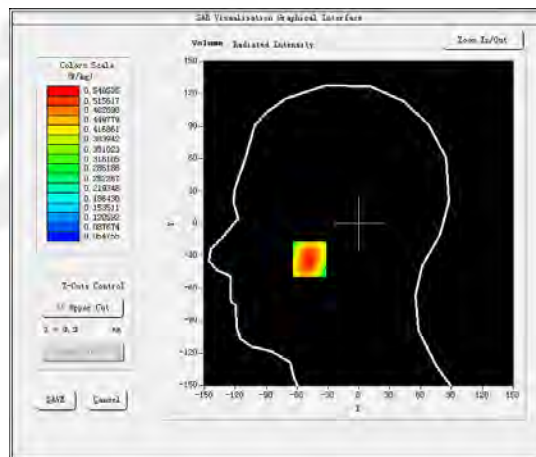
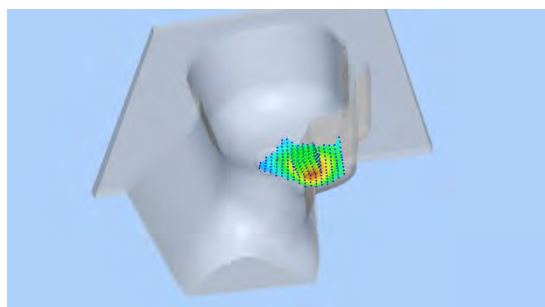
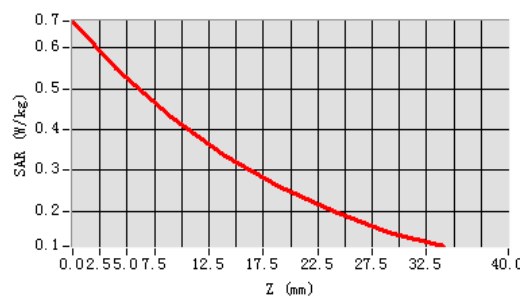
Plot 11: DUT: Smart phone; EUT Model: Titan pocket

Test Date	2021-03-30
Probe	SN 07/21 EPG0352
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm, Complete/ndx=8mm, dy=8mm, h= 5.00 mm
Phantom	Left head
Device Position	Cheek
Band	CDMA BC0
Channels	High
Signal	CDMA (Crest factor: 1.0)
Frequency (MHz)	848.31
Relative permittivity (real part)	43.69
Conductivity (S/m)	0.92

Maximum location: X=-48.00, Y=-33.00

SAR Peak: 0.67 W/kg

SAR 10g (W/Kg)	0.379992
SAR 1g (W/Kg)	0.529557

SURFACE SAR

VOLUME SAR

3D screen shot

Z Axis Scan


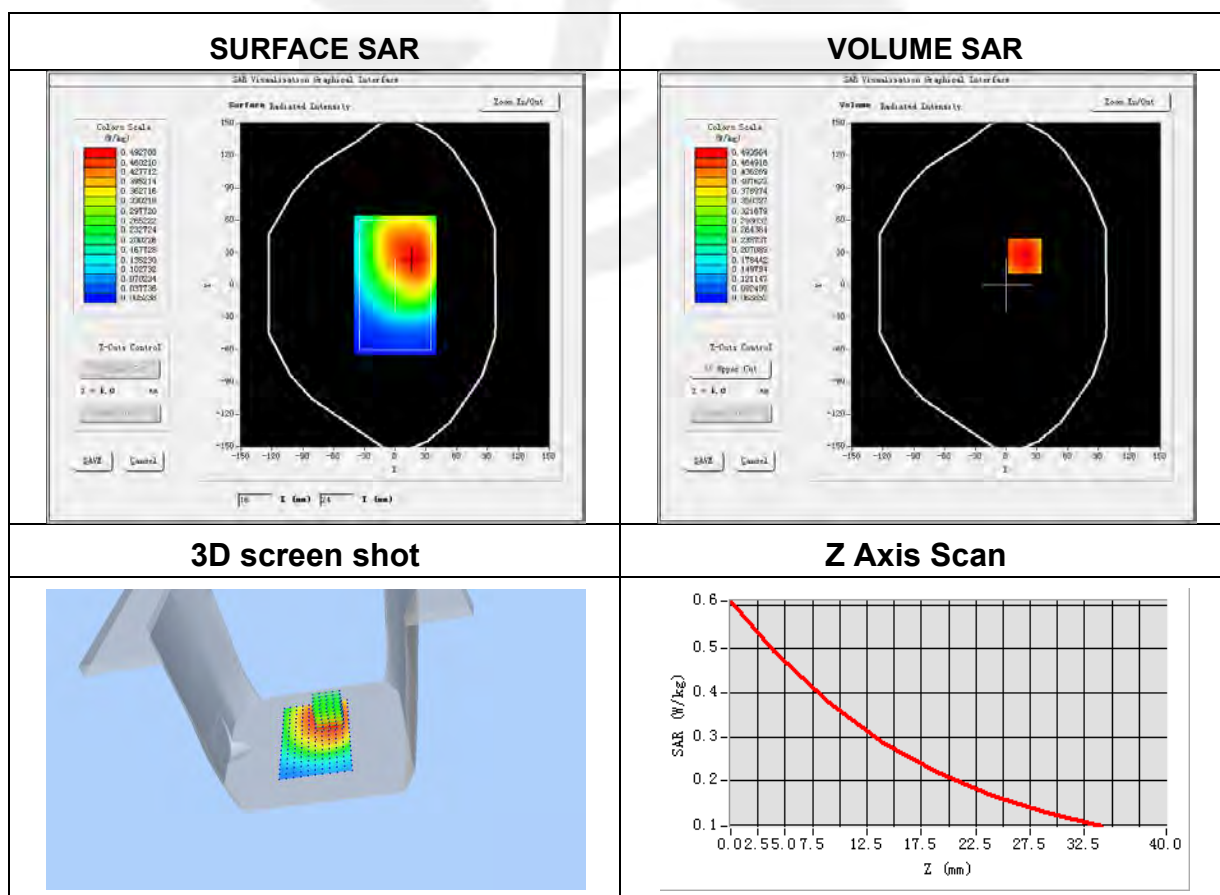
Plot 12: DUT: Smart phone; EUT Model: Titan pocket

Test Date	2021-03-30
Probe	SN 07/21 EPGO352
ConvF	1.60
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm, Complete/ndx=8mm, dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Front Side
Band	CDMA BC0
Channels	High
Signal	CDMA (Crest factor: 1.0)
Frequency (MHz)	848.31
Relative permittivity (real part)	43.39
Conductivity (S/m)	0.92

Maximum location: X=18.00, Y=27.00

SAR Peak: 0.61 W/kg

SAR 10g (W/Kg)	0.356453
SAR 1g (W/Kg)	0.480204



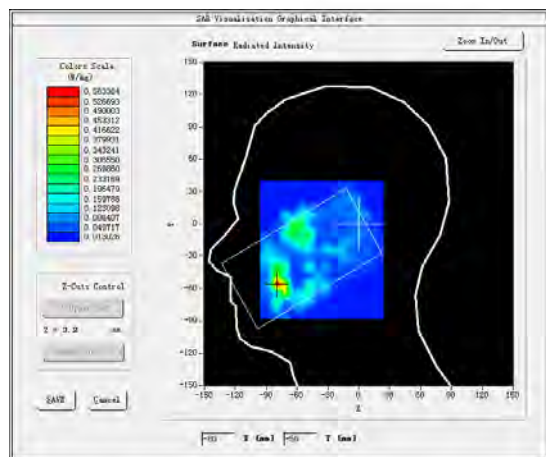
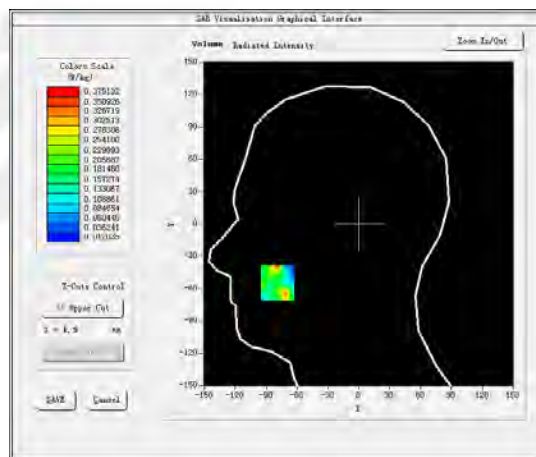
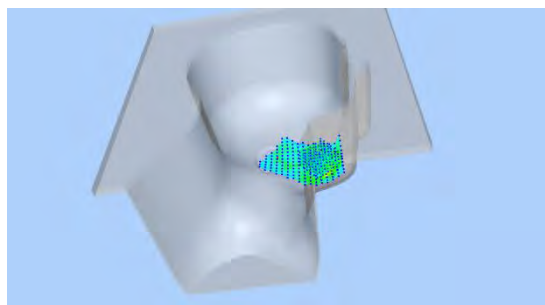
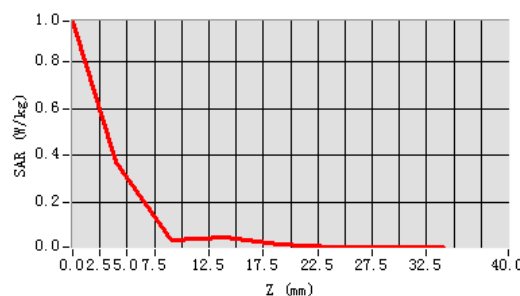
Plot 13: DUT: Smart phone; EUT Model: Titan pocket

Test Date	2021-04-02
Probe	SN 07/21 EPG0352
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm, Complete/ndx=8mm, dy=8mm, h= 5.00 mm
Phantom	Left head
Device Position	Cheek
Band	CDMA BC1
Channels	High
Signal	CDMA (Crest factor: 1.0)
Frequency (MHz)	1908.75
Relative permittivity (real part)	39.57
Conductivity (S/m)	1.26

Maximum location: X=-79.00, Y=-55.00

SAR Peak: 0.86 W/kg

SAR 10g (W/Kg)	0.138290
SAR 1g (W/Kg)	0.341871

SURFACE SAR

VOLUME SAR

3D screen shot

Z Axis Scan


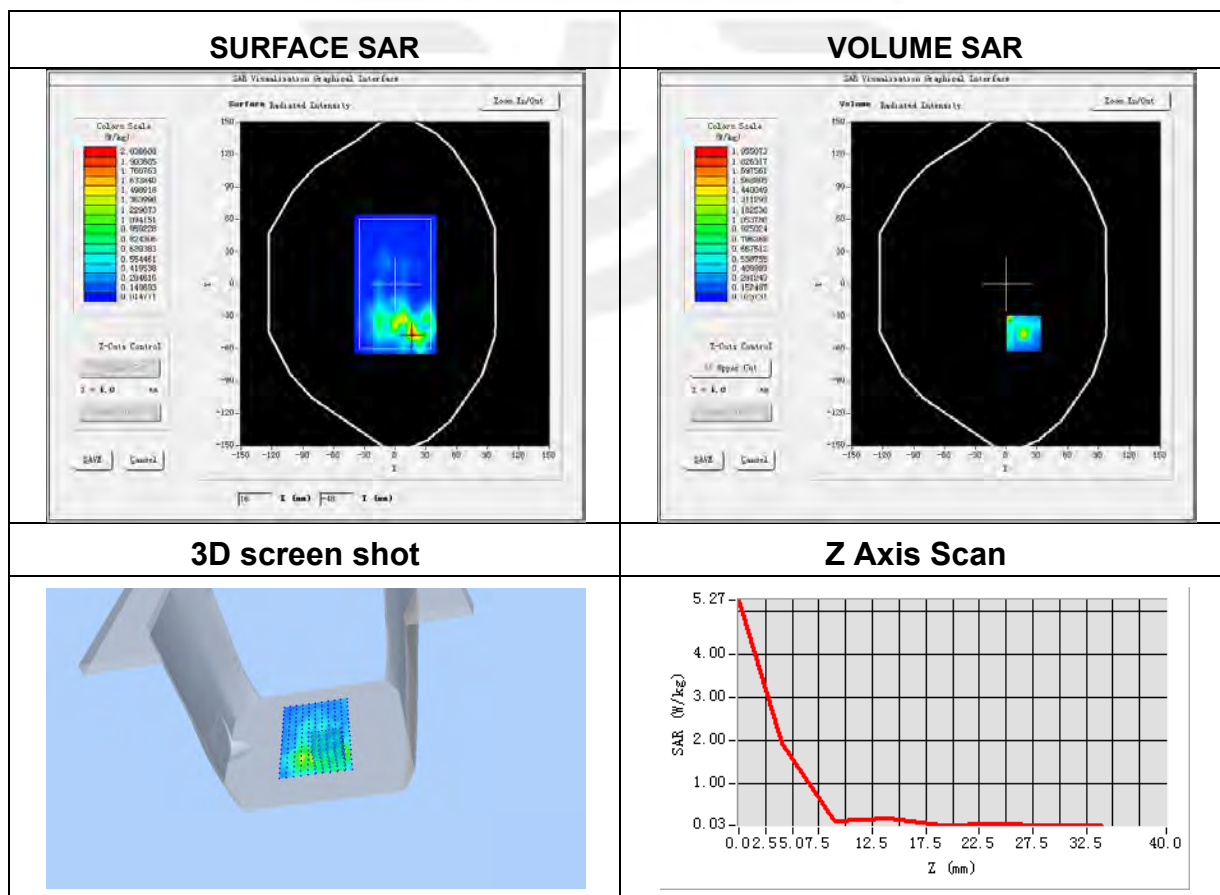
Plot 14: DUT: Smart phone; EUT Model: Titan pocket

Test Date	2021-03-30
Probe	SN 07/21 EPGO352
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm, Complete/ndx=8mm, dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Back Side
Band	CDMA BC1
Channels	High
Signal	CDMA (Crest factor: 1.0)
Frequency (MHz)	1908.75
Relative permittivity (real part)	39.57
Conductivity (S/m)	1.43

Maximum location: X=17.00, Y=-46.00

SAR Peak: 5.12 W/kg

SAR 10g (W/Kg)	0.449272
SAR 1g (W/Kg)	0.874865



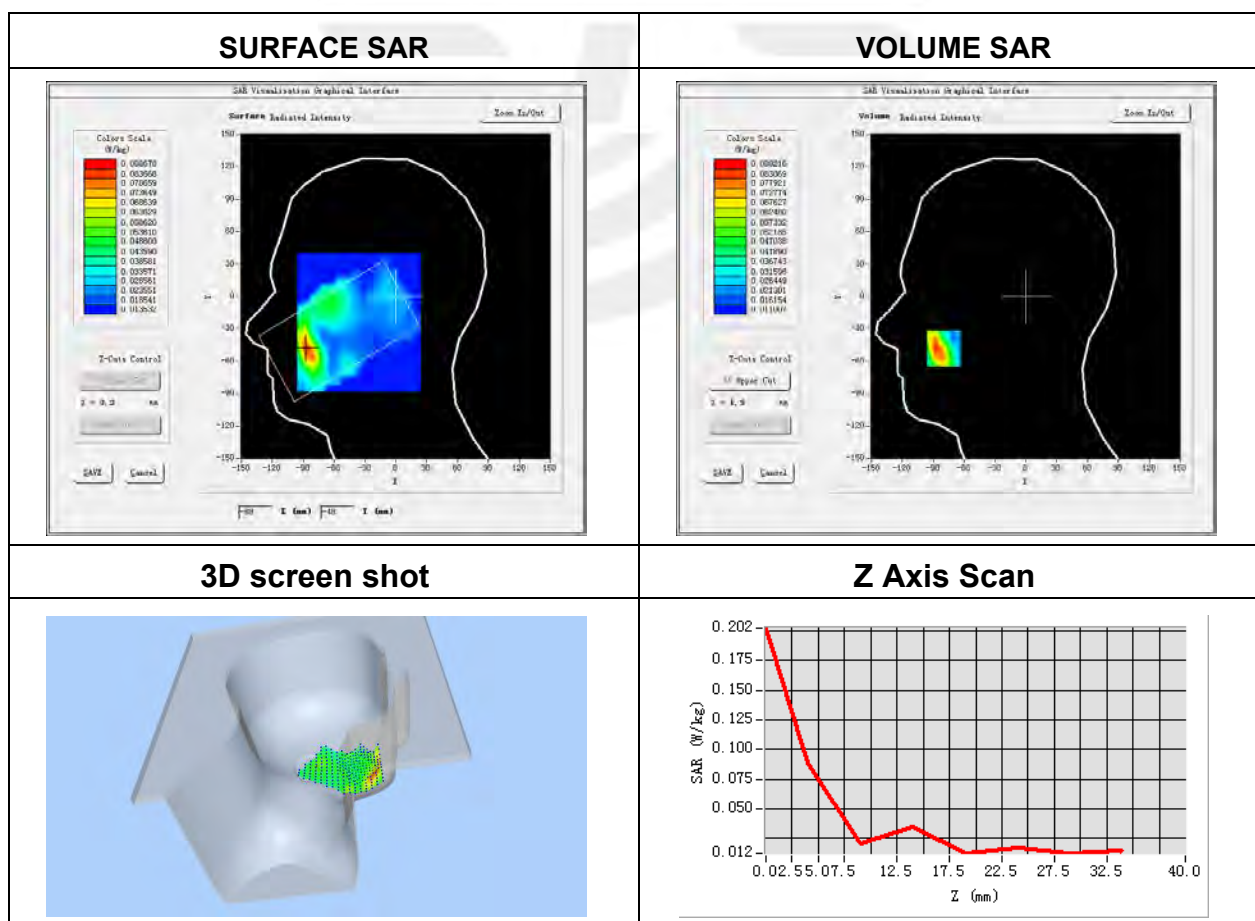
Plot 15: DUT: Smart phone; EUT Model: Titan pocket

Test Date	2021-04-01
Probe	SN 07/21 EPG0352
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm, Complete/ndx=8mm, dy=8mm, h= 5.00 mm
Phantom	Left head
Device Position	Cheek
Band	LTE Band 2 (RB 1)
Channels	Mid
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	1880
Relative permittivity (real part)	40.05
Conductivity (S/m)	1.37

Maximum location: X=-80.00, Y=-48.00

SAR Peak: 0.14 W/kg

SAR 10g (W/Kg)	0.048005
SAR 1g (W/Kg)	0.084169



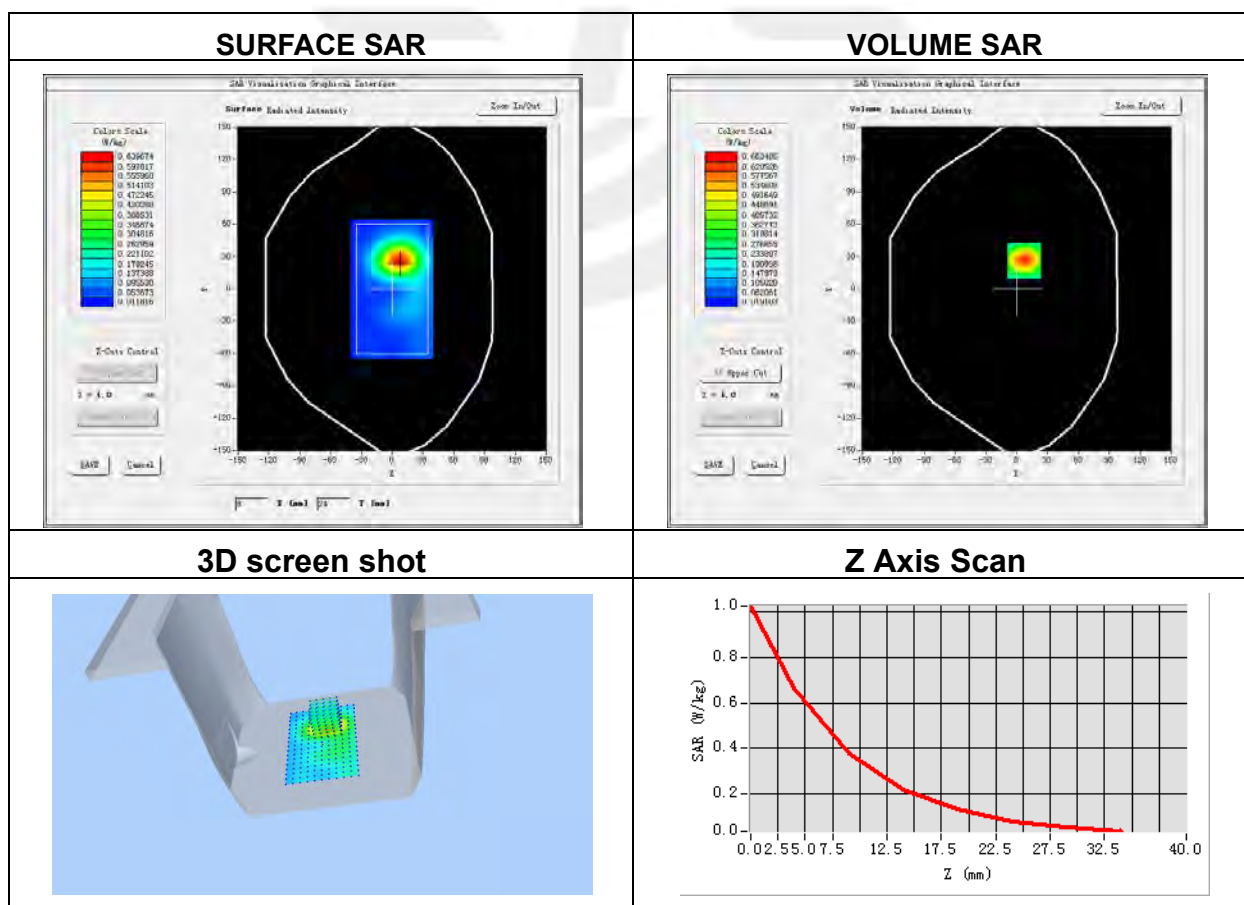
Plot 16: DUT: Smart phone; EUT Model: Titan pocket

Test Date	2021-04-01
Probe	SN 07/21 EPGO352
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm, Complete/ndx=8mm, dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Back Side
Band	LTE Band 2(RB 1)
Channels	Mid
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	1880
Relative permittivity (real part)	40.05
Conductivity (S/m)	1.37

Maximum location: X=7.00, Y=26.00

SAR Peak: 1.02 W/kg

SAR 10g (W/Kg)	0.328768
SAR 1g (W/Kg)	0.623517



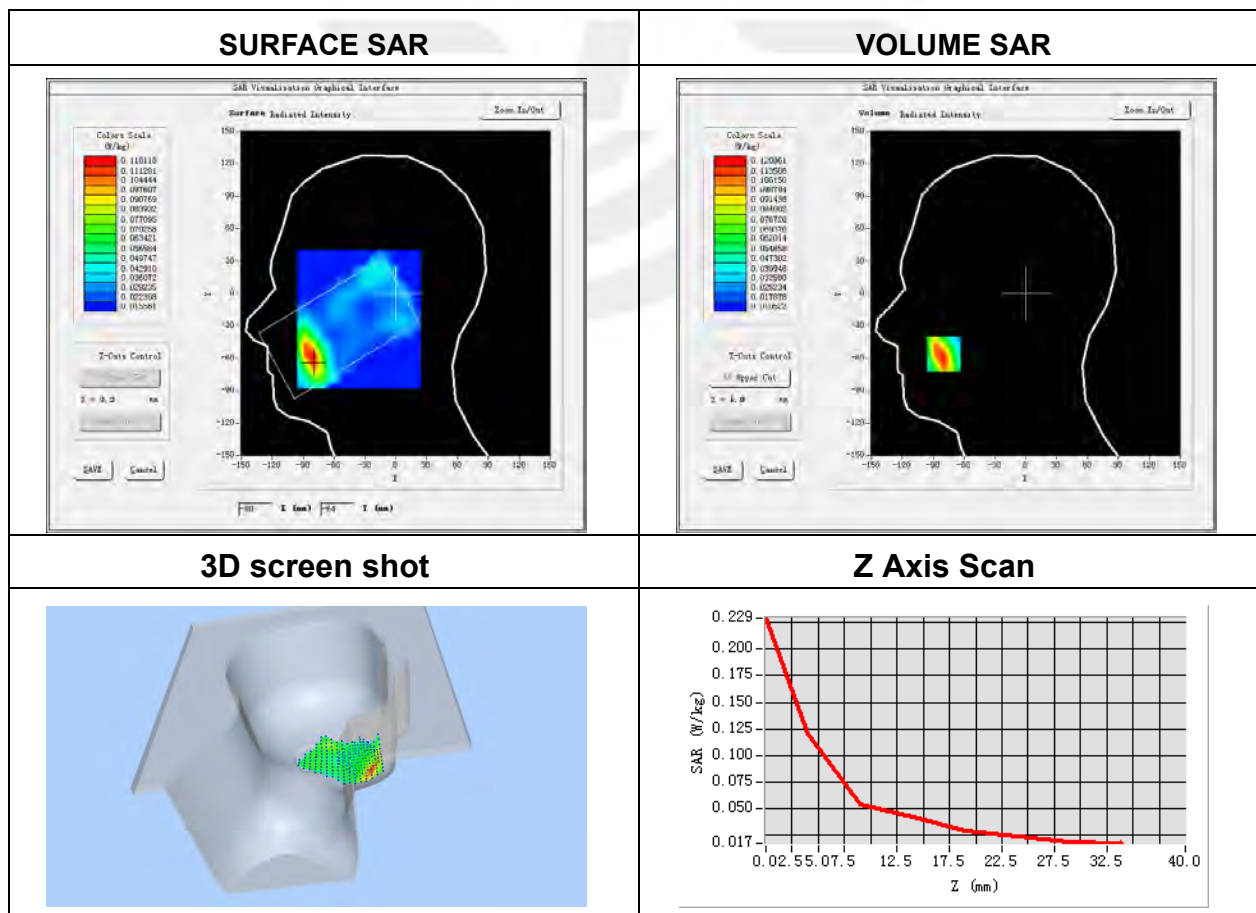
Plot 17: DUT: Smart phone; EUT Model: Titan pocket

Test Date	2021-04-01
Probe	SN 07/21 EPG0352
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm, Complete/ndx=8mm, dy=8mm, h= 5.00 mm
Phantom	Left head
Device Position	Cheek
Band	LTE Band 4
Channels	Mid
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	1732.5
Relative permittivity (real part)	39.86
Conductivity (S/m)	1.33

Maximum location: X=-80.00, Y=-56.00

SAR Peak: 0.20 W/kg

SAR 10g (W/Kg)	0.068293
SAR 1g (W/Kg)	0.120396



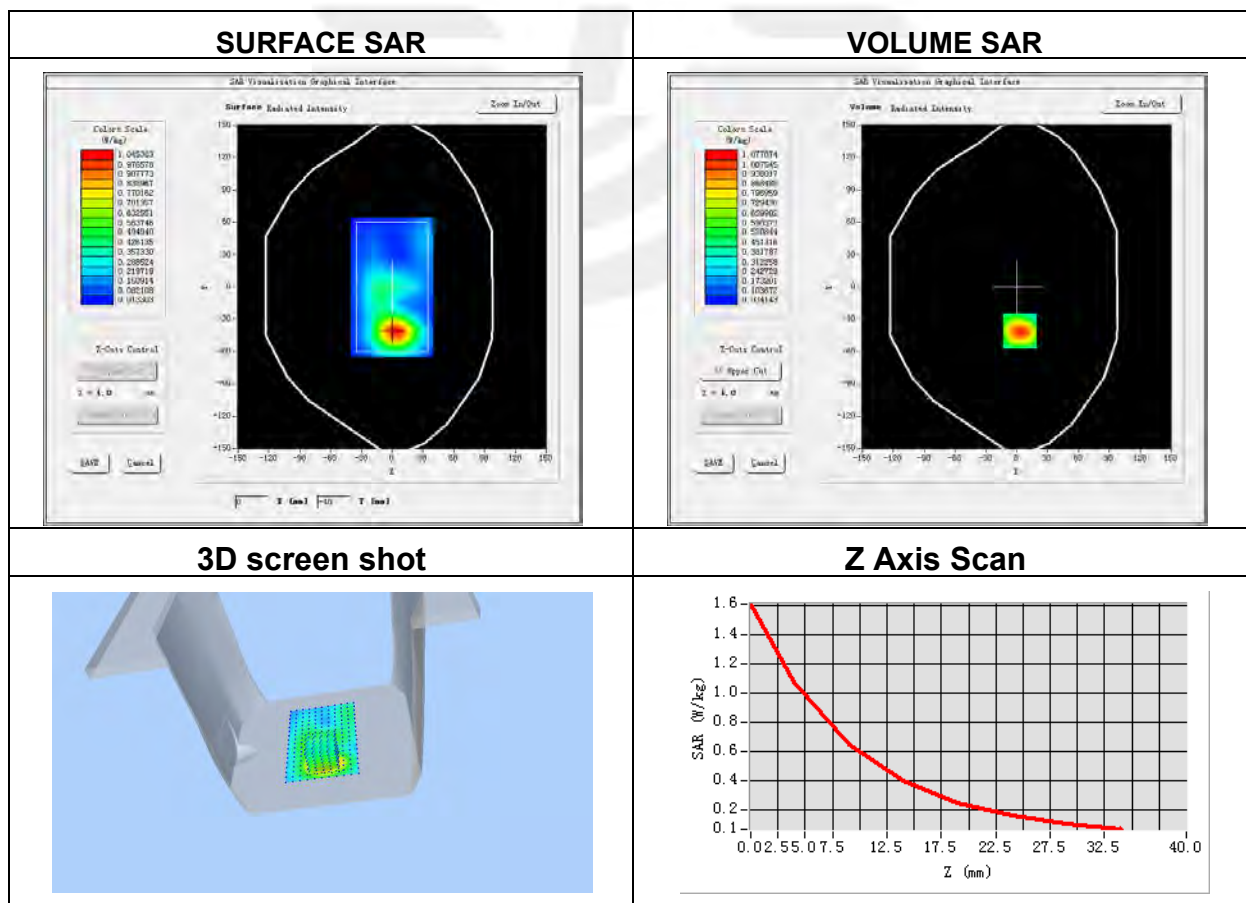
Plot 18: DUT: Smart phone; EUT Model: Titan pocket

Test Date	2021-04-01
Probe	SN 07/21 EPGO352
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm, Complete/ndx=8mm, dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Back Side
Band	LTE Band 4
Channels	Mid
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	1732.5
Relative permittivity (real part)	39.86
Conductivity (S/m)	1.33

Maximum location: X=3.00, Y=-41.00

SAR Peak: 1.61 W/kg

SAR 10g (W/Kg)	0.560624
SAR 1g (W/Kg)	1.013012



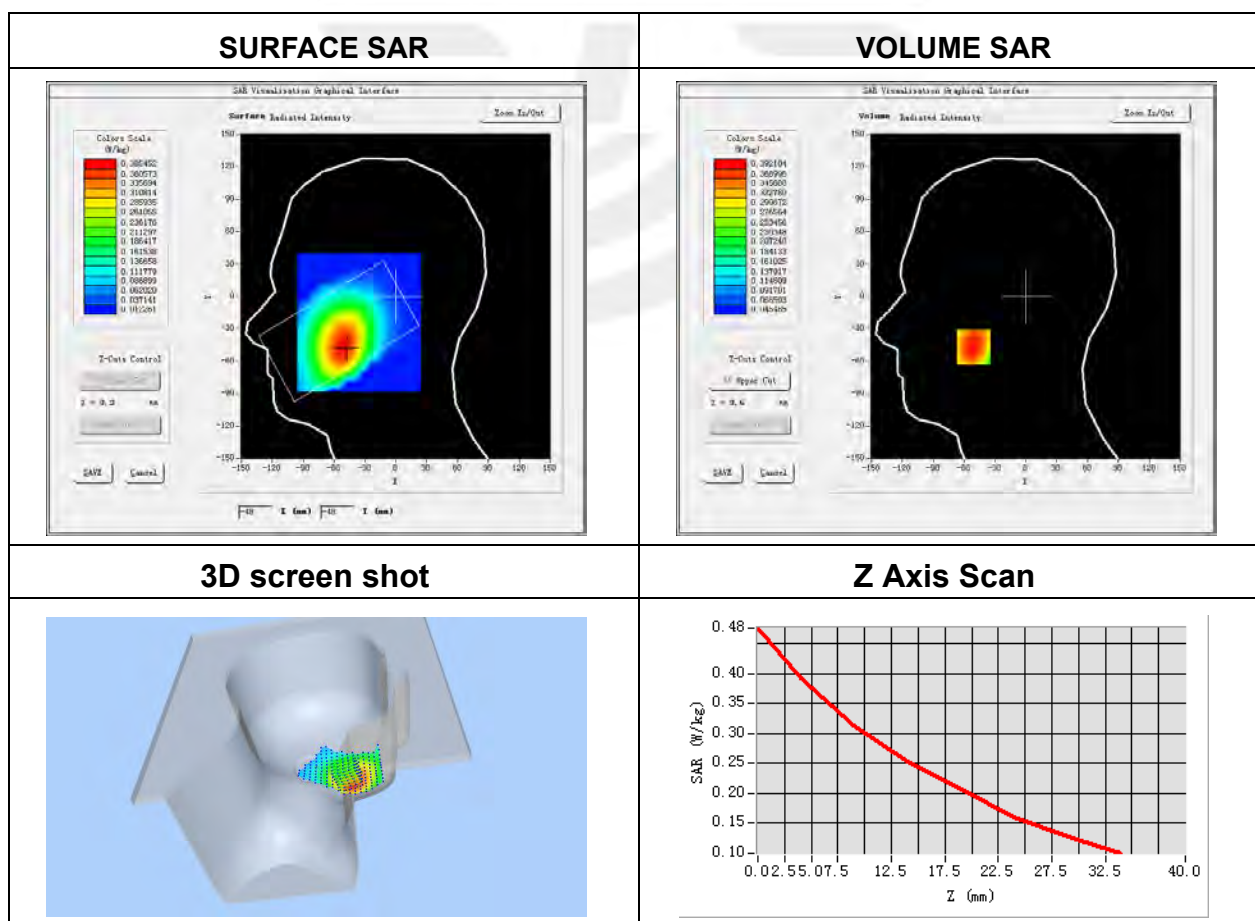
Plot 19: DUT: Smart phone; EUT Model: Titan pocket

Test Date	2021-03-30
Probe	SN 07/21 EPGO352
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm, Complete/ndx=8mm, dy=8mm, h= 5.00 mm
Phantom	Left head
Device Position	Cheek
Band	LTE Band 5
Channels	Middle
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	836.5
Relative permittivity (real part)	41.99
Conductivity (S/m)	0.88

Maximum location: X=-51.00, Y=-47.00

SAR Peak: 0.48 W/kg

SAR 10g (W/Kg)	0.290959
SAR 1g (W/Kg)	0.385076



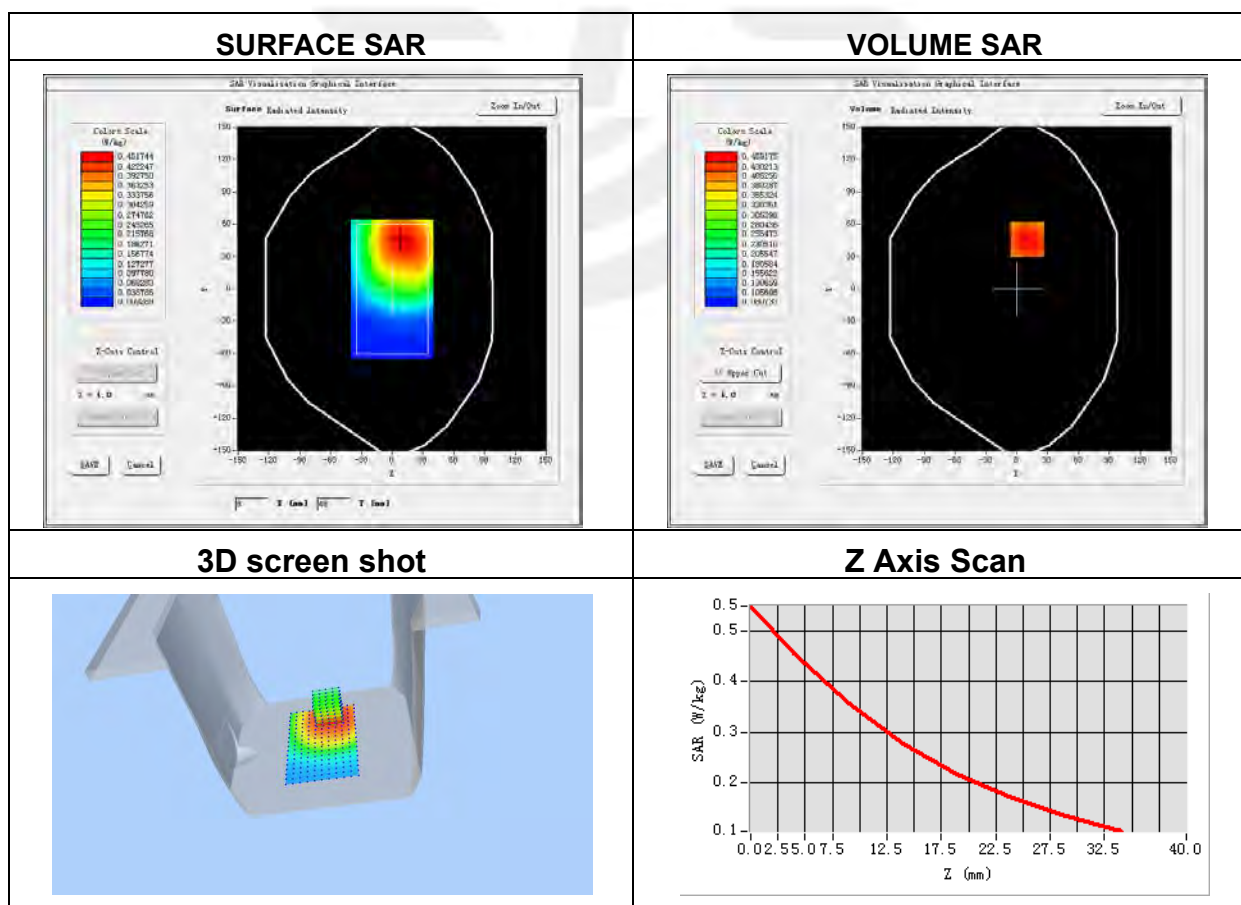
Plot 20: DUT: Smart phone; EUT Model: Titan pocket

Test Date	2021-03-30
Probe	SN 07/21 EPGO352
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm, Complete/ndx=8mm, dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Back Side
Band	LTE Band 5
Channels	Middle
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	836.5
Relative permittivity (real part)	41.99
Conductivity (S/m)	0.88

Maximum location: X=10.00, Y=46.00

SAR Peak: 0.55 W/kg

SAR 10g (W/Kg)	0.335843
SAR 1g (W/Kg)	0.444052



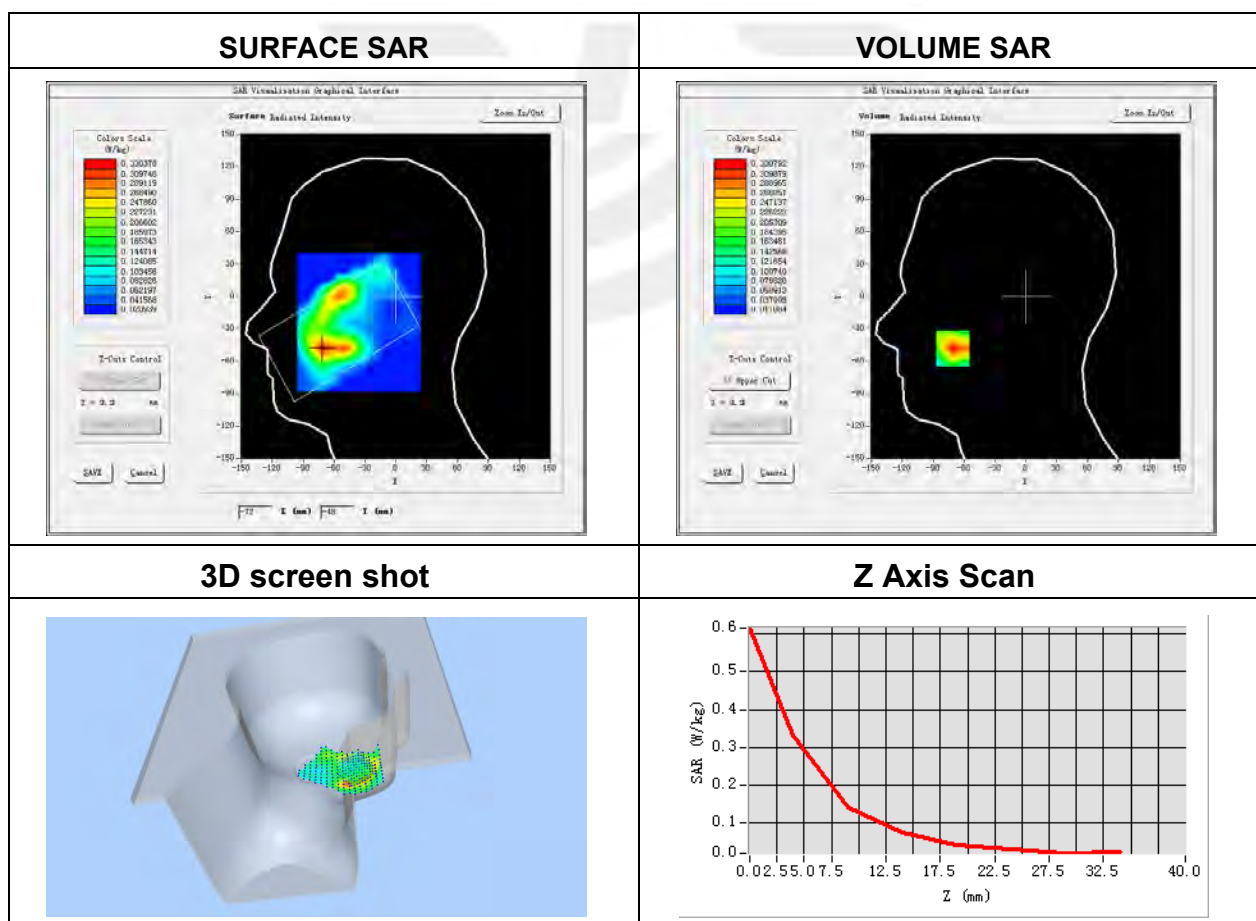
Plot 21: DUT: Smart phone; EUT Model: Titan pocket

Test Date	2021-04-07
Probe	SN 07/21 EPG0352
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm, Complete/ndx=8mm, dy=8mm, h= 5.00 mm
Phantom	Left head
Device Position	Cheek
Band	LTE Band 7
Channels	Middle
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	2535
Relative permittivity (real part)	39.09
Conductivity (S/m)	1.89

Maximum location: X=-71.00, Y=-48.00

SAR Peak: 0.60 W/kg

SAR 10g (W/Kg)	0.157342
SAR 1g (W/Kg)	0.316886



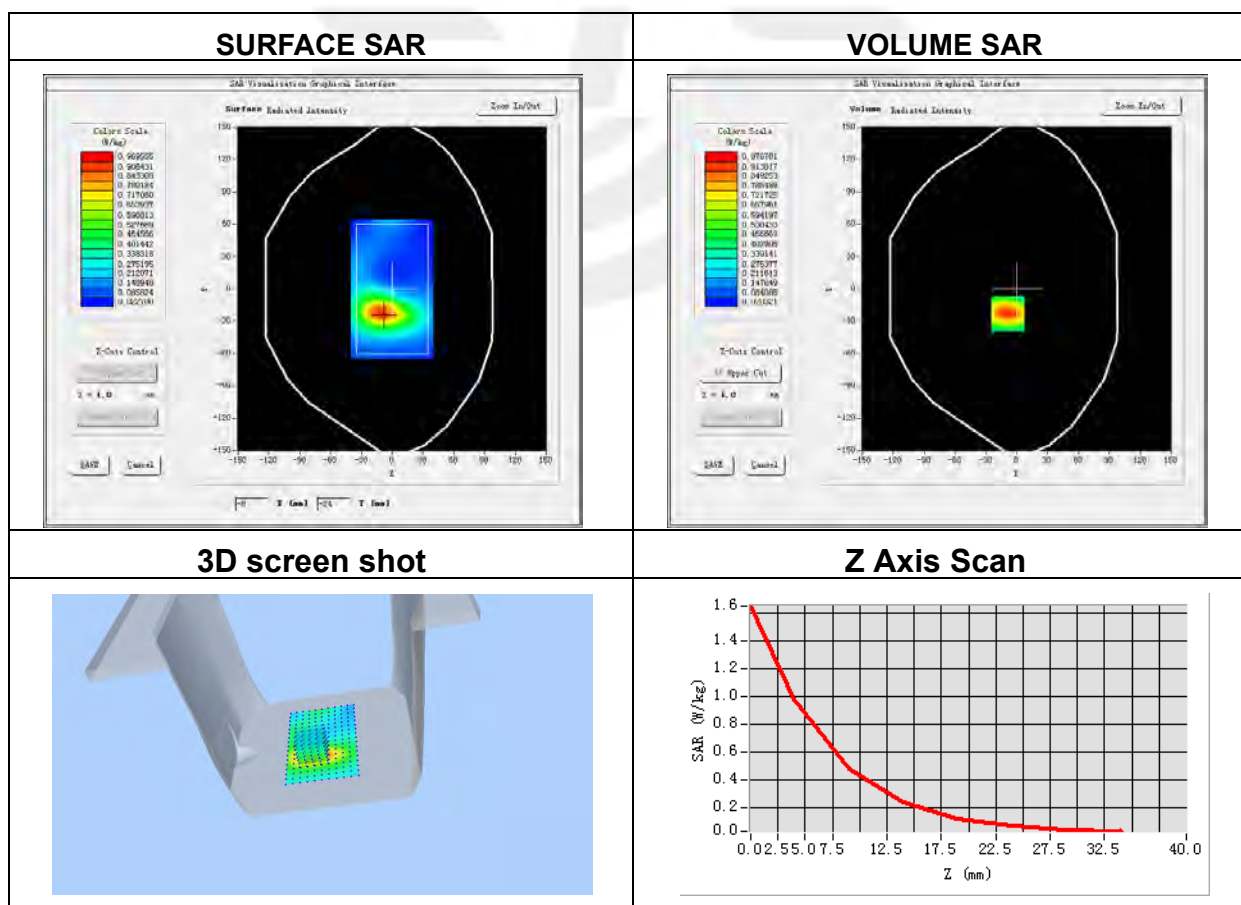
Plot 22: DUT: Smart phone; EUT Model: Titan pocket

Test Date	2021-03-30
Probe	SN 07/21 EPGO352
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm, Complete/ndx=8mm, dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Back Side
Band	LTE Band 7
Channels	Middle
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	2535
Relative permittivity (real part)	39.09
Conductivity (S/m)	1.89

Maximum location: X=-9.00, Y=-23.00

SAR Peak: 1.64 W/kg

SAR 10g (W/Kg)	0.458335
SAR 1g (W/Kg)	0.929148



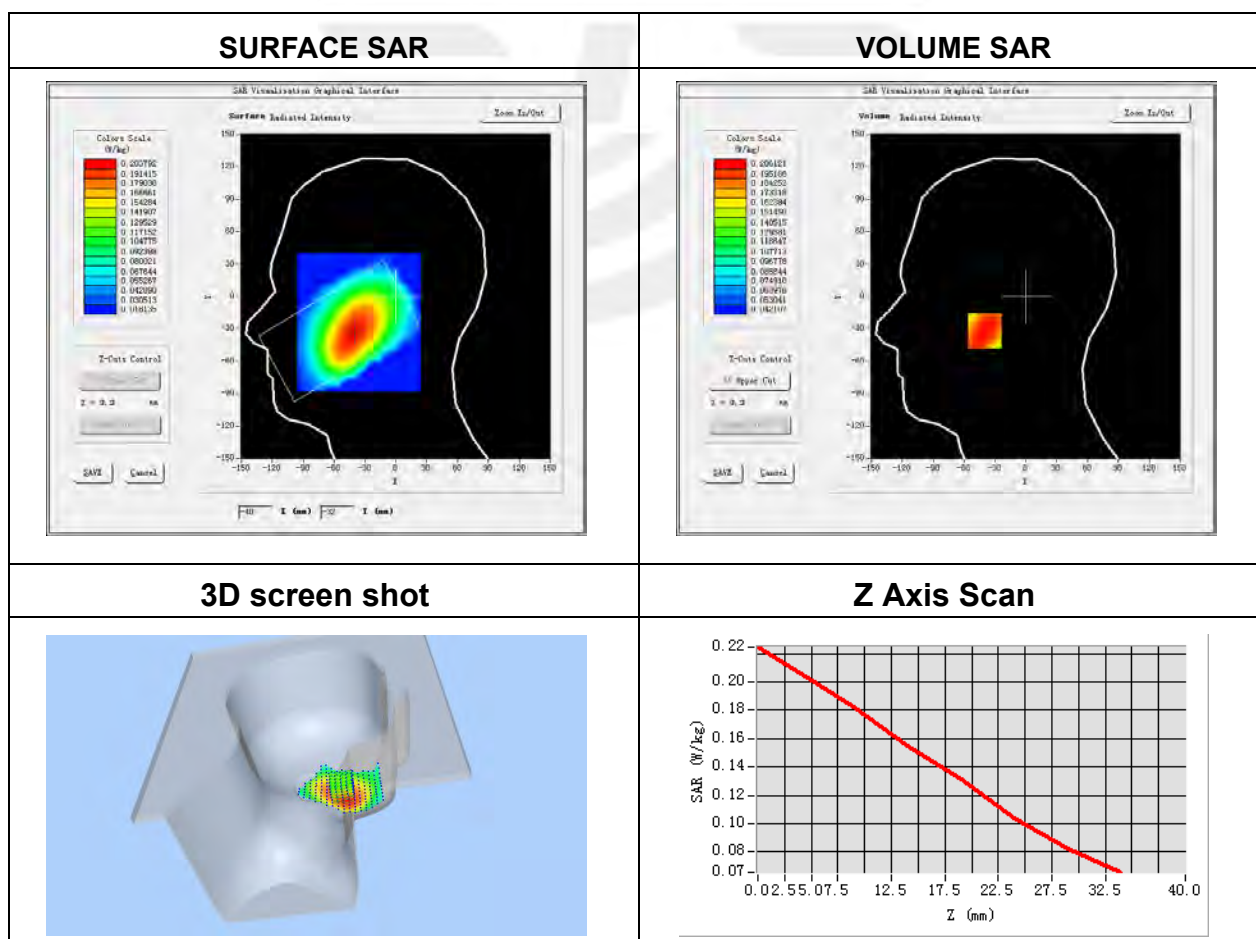
Plot 23: DUT: Smart phone; EUT Model: Titan pocket

Test Date	2021-03-29
Probe	SN 07/21 EPG0352
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm, Complete/ndx=8mm, dy=8mm, h= 5.00 mm
Phantom	Left head
Device Position	Cheek
Band	LTE Band 12
Channels	Mid
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	707.5
Relative permittivity (real part)	38.00
Conductivity (S/m)	2.01

Maximum location: X=-40.00, Y=-32.00

SAR Peak: 0.24 W/kg

SAR 10g (W/Kg)	0.168082
SAR 1g (W/Kg)	0.207407



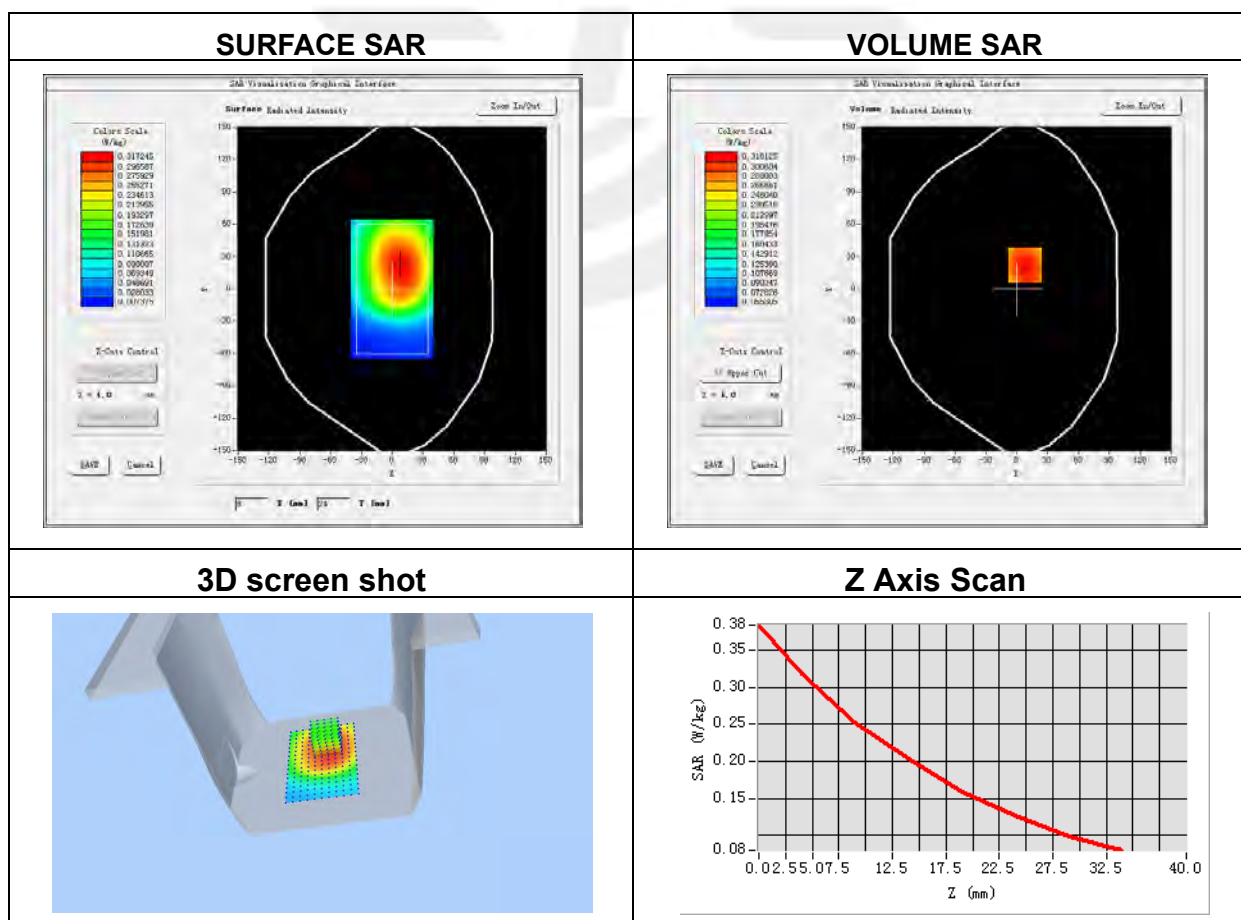
Plot 24: DUT: Smart phone; EUT Model: Titan pocket

Test Date	2021-03-29
Probe	SN 07/21 EPGO352
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm, Complete/ndx=8mm, dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Back Side
Band	LTE Band 12
Channels	Mid
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	707.5
Relative permittivity (real part)	38.00
Conductivity (S/m)	2.01

Maximum location: X=8.00, Y=22.00

SAR Peak: 0.38 W/kg

SAR 10g (W/Kg)	0.240599
SAR 1g (W/Kg)	0.315731



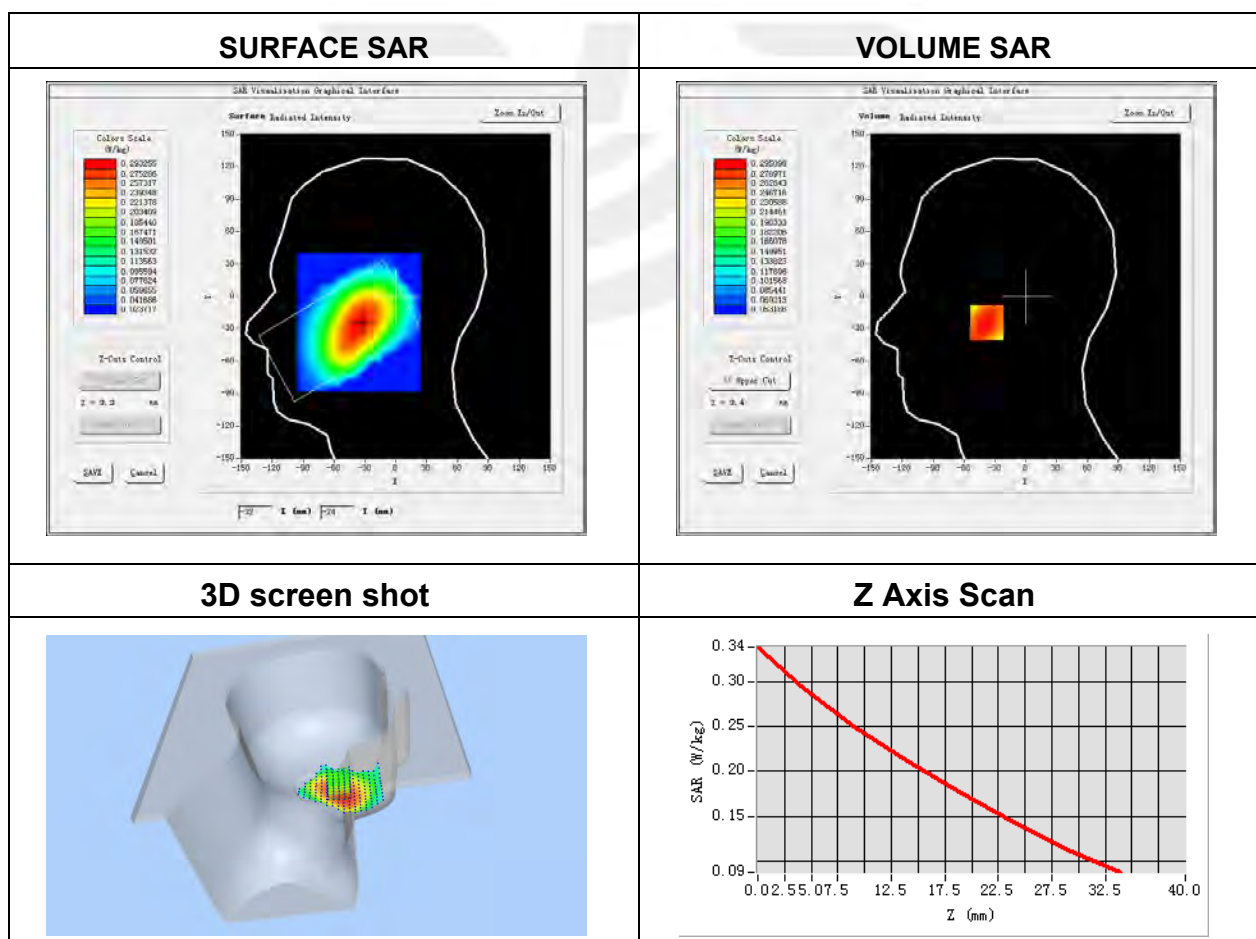
Plot 25: DUT: Smart phone; EUT Model: Titan pocket

Test Date	2021-03-29
Probe	SN 07/21 EPG0352
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm, Complete/ndx=8mm, dy=8mm, h= 5.00 mm
Phantom	Left head
Device Position	Cheek
Band	LTE Band 13
Channels	Mid
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	782
Relative permittivity (real part)	41.75
Conductivity (S/m)	0.90

Maximum location: X=-34.00, Y=-24.00

SAR Peak: 0.34 W/kg

SAR 10g (W/Kg)	0.229981
SAR 1g (W/Kg)	0.288712



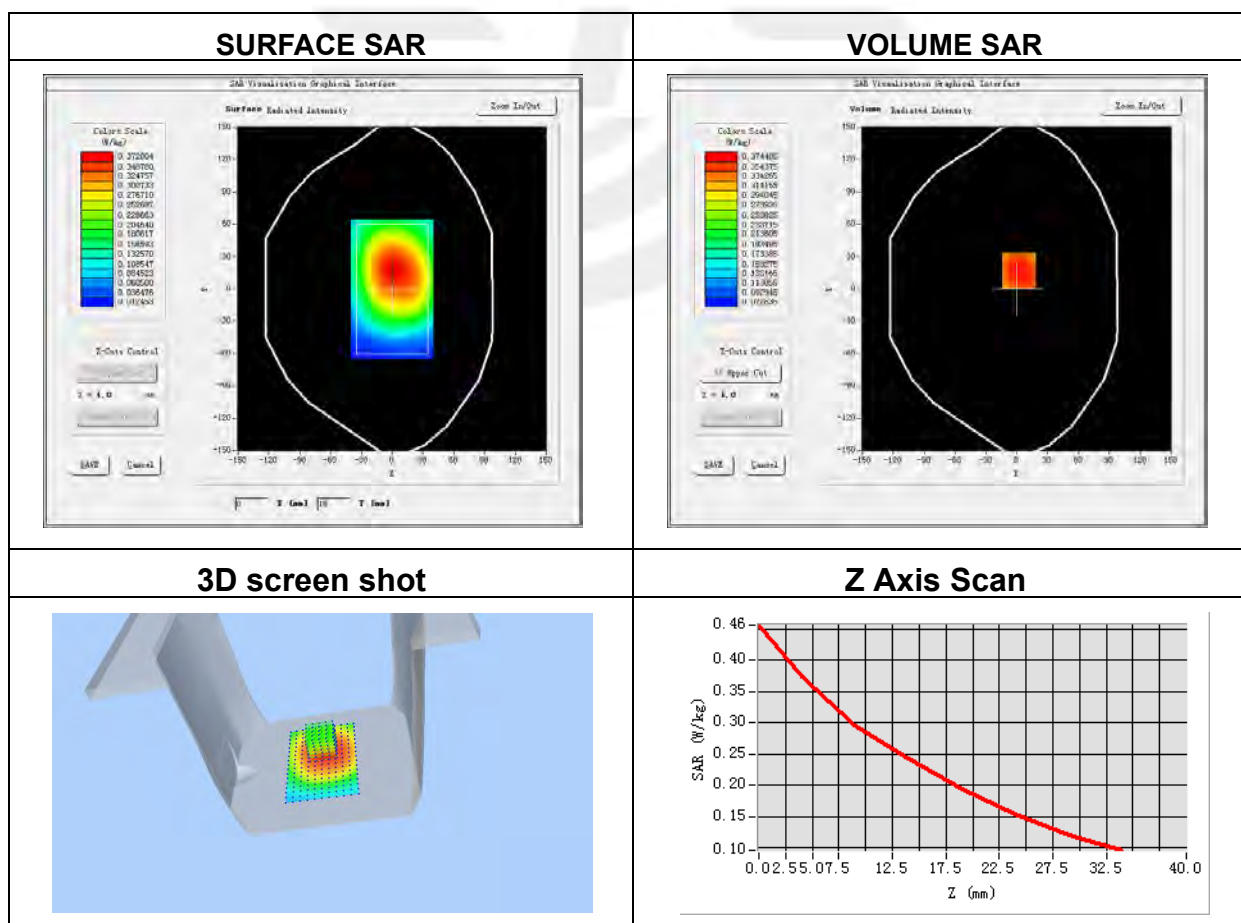
Plot 26: DUT: Smart phone; EUT Model: Titan pocket

Test Date	2021-03-29
Probe	SN 07/21 EPGO352
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm, Complete/ndx=8mm, dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Back Side
Band	LTE Band 13
Channels	Mid
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	782
Relative permittivity (real part)	41.75
Conductivity (S/m)	0.90

Maximum location: X=2.00, Y=17.00

SAR Peak: 0.46 W/kg

SAR 10g (W/Kg)	0.280178
SAR 1g (W/Kg)	0.366292



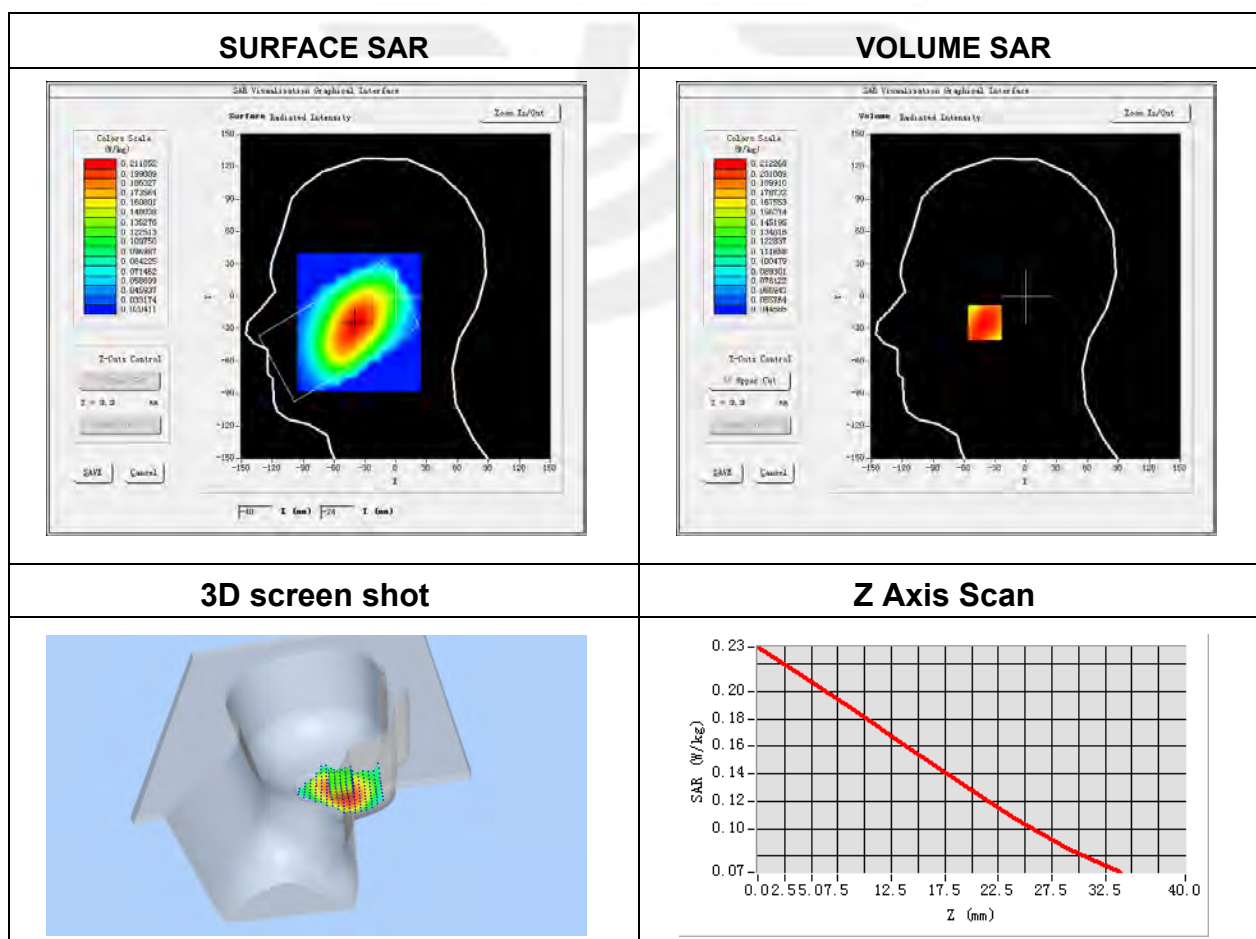
Plot 27: DUT: Smart phone; EUT Model: Titan pocket

Test Date	2021-03-29
Probe	SN 07/21 EPG0352
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm, Complete/ndx=8mm, dy=8mm, h= 5.00 mm
Phantom	Left head
Device Position	Cheek
Band	LTE Band 17
Channels	Mid
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	710
Relative permittivity (real part)	41.75
Conductivity (S/m)	0.90

Maximum location: X=-39.00, Y=-24.00

SAR Peak: 0.24 W/kg

SAR 10g (W/Kg)	0.169171
SAR 1g (W/Kg)	0.207929



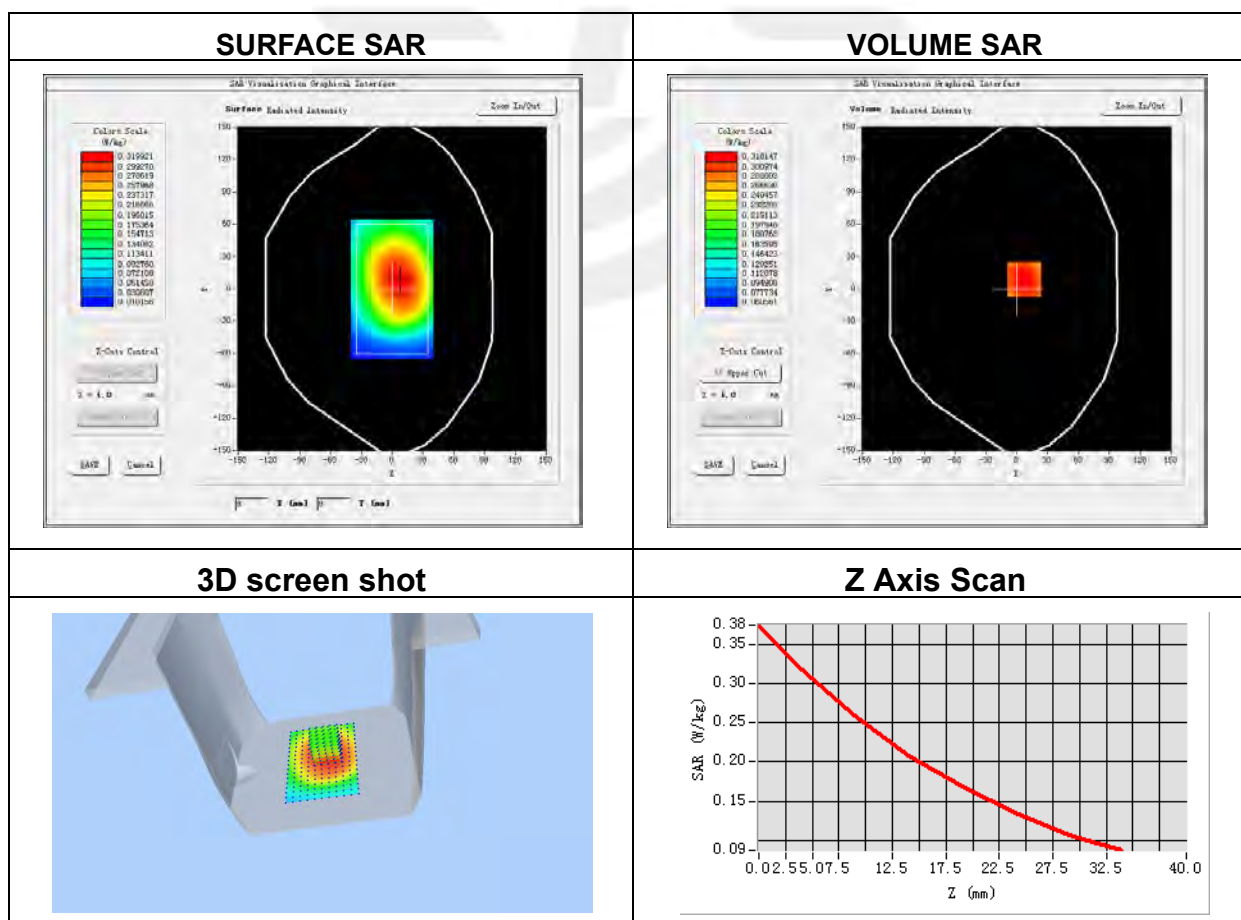
Plot 28: DUT: Smart phone; EUT Model: Titan pocket

Test Date	2021-03-29
Probe	SN 07/21 EPGO352
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm, Complete/ndx=8mm, dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Back Side
Band	LTE Band 17
Channels	Mid
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	710
Relative permittivity (real part)	41.75
Conductivity (S/m)	0.90

Maximum location: X=7.00, Y=9.00

SAR Peak: 0.38 W/kg

SAR 10g (W/Kg)	0.241959
SAR 1g (W/Kg)	0.310929



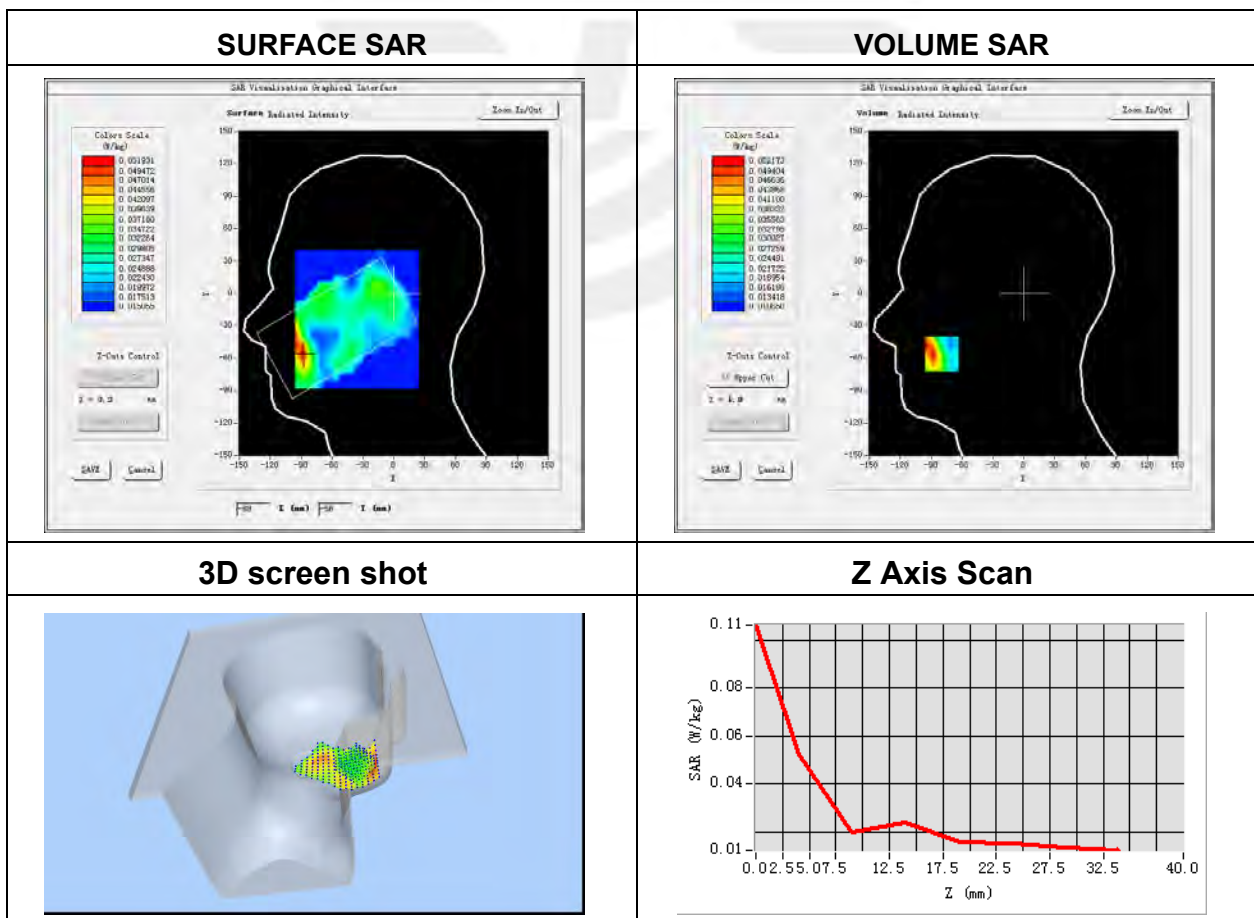
Plot 29: DUT: Smart phone; EUT Model: Titan pocket

Test Date	2021-04-02
Probe	SN 07/21 EPG0352
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm, Complete/ndx=8mm, dy=8mm, h= 5.00 mm
Phantom	Left head
Device Position	Cheek
Band	LTE Band 25
Channels	Mid
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	1882.5
Relative permittivity (real part)	41.99
Conductivity (S/m)	0.88

Maximum location: X=-80.00, Y=-56.00

SAR Peak: 0.08 W/kg

SAR 10g (W/Kg)	0.031425
SAR 1g (W/Kg)	0.049741



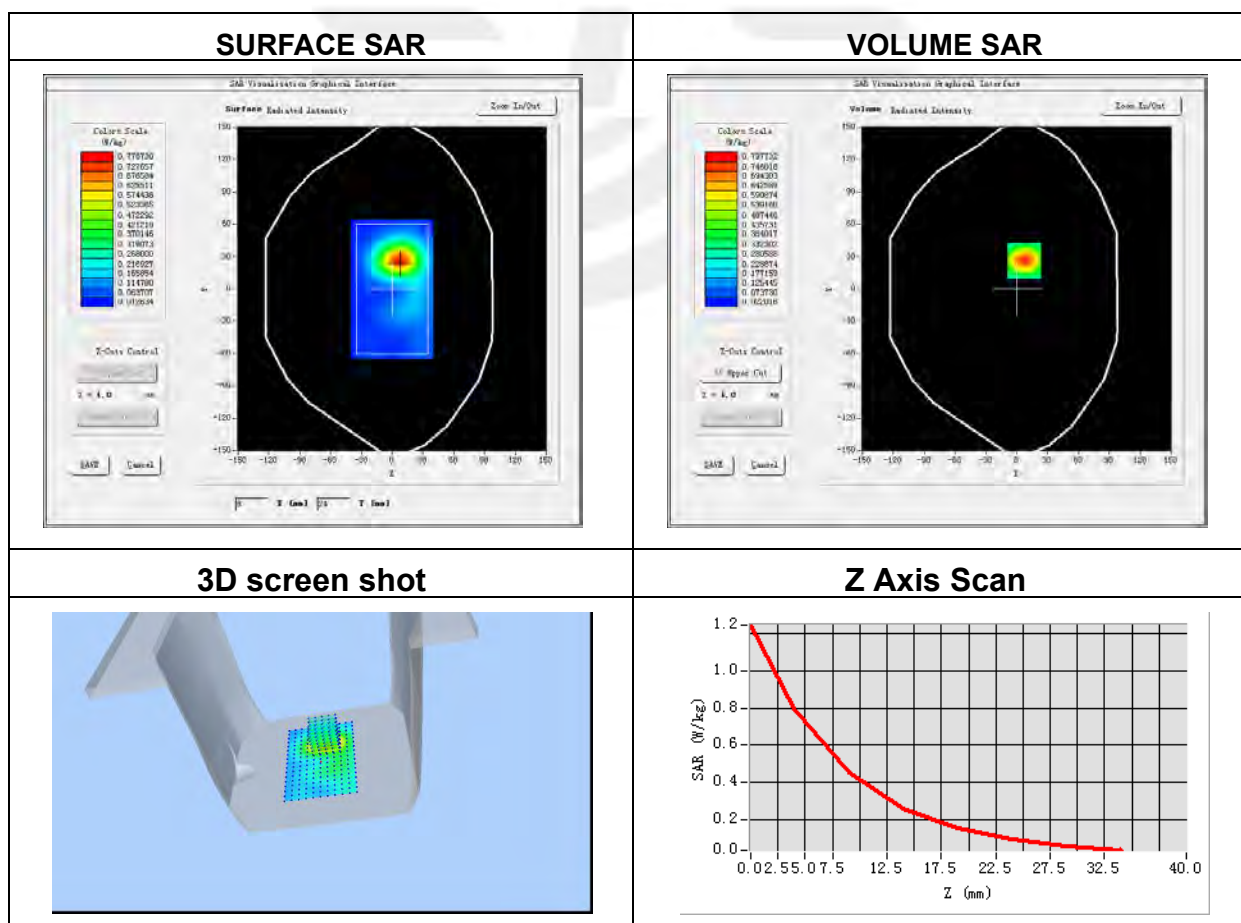
Plot 30: DUT: Smart phone; EUT Model: Titan pocket

Test Date	2021-04-02
Probe	SN 07/21 EPGO352
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm, Complete/ndx=8mm, dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Front Side
Band	LTE Band 25
Channels	Mid
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	1882.5
Relative permittivity (real part)	41.99
Conductivity (S/m)	0.88

Maximum location: X=7.00, Y=26.00

SAR Peak: 1.23 W/kg

SAR 10g (W/Kg)	0.393702
SAR 1g (W/Kg)	0.748661



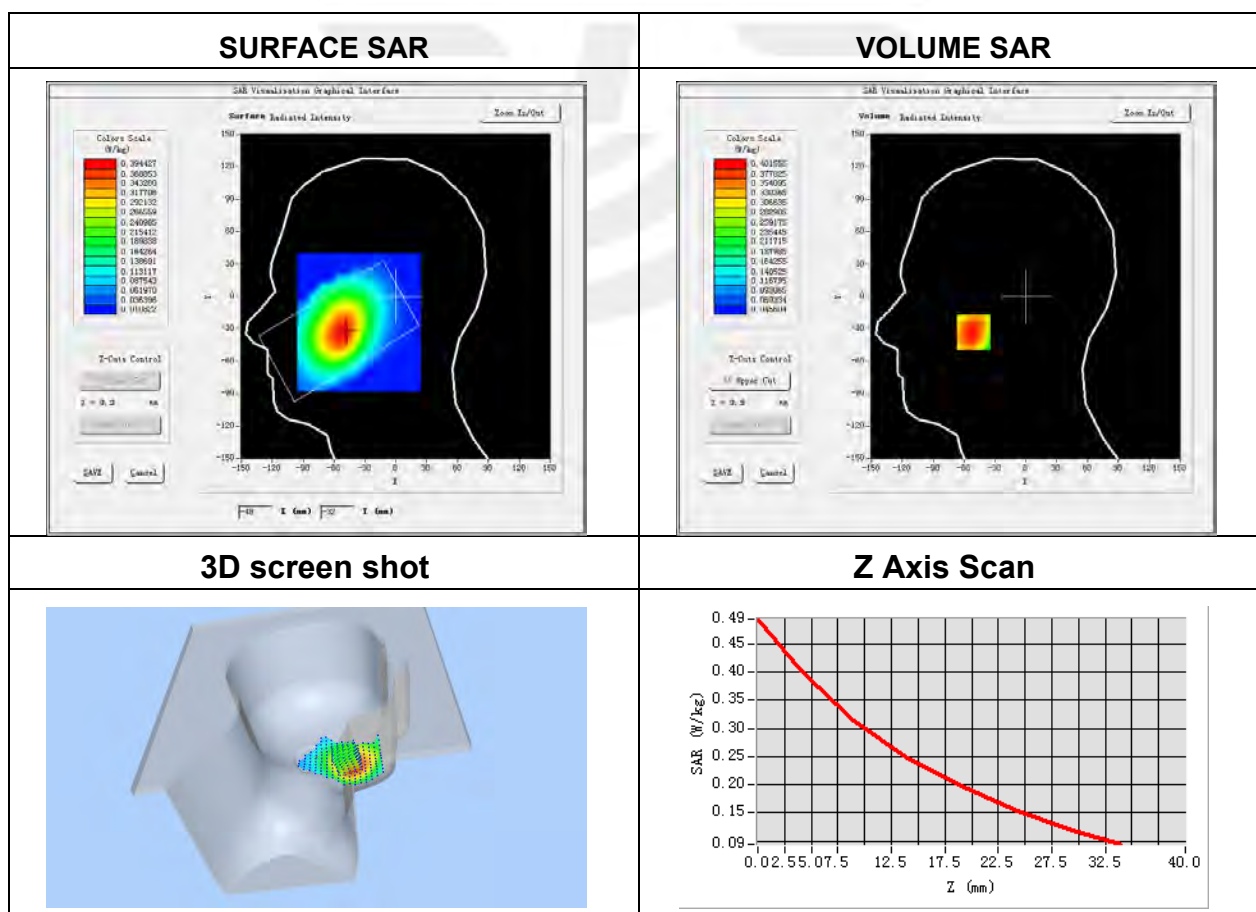
Plot 31: DUT: Smart phone; EUT Model: Titan pocket

Test Date	2021-03-30
Probe	SN 07/21 EPG0352
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm, Complete/ndx=8mm, dy=8mm, h= 5.00 mm
Phantom	Left head
Device Position	Cheek
Band	LTE Band 26
Channels	Mid
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	831.5
Relative permittivity (real part)	41.99
Conductivity (S/m)	0.88

Maximum location: X=-50.00, Y=-33.00

SAR Peak: 0.50 W/kg

SAR 10g (W/Kg)	0.287317
SAR 1g (W/Kg)	0.389423



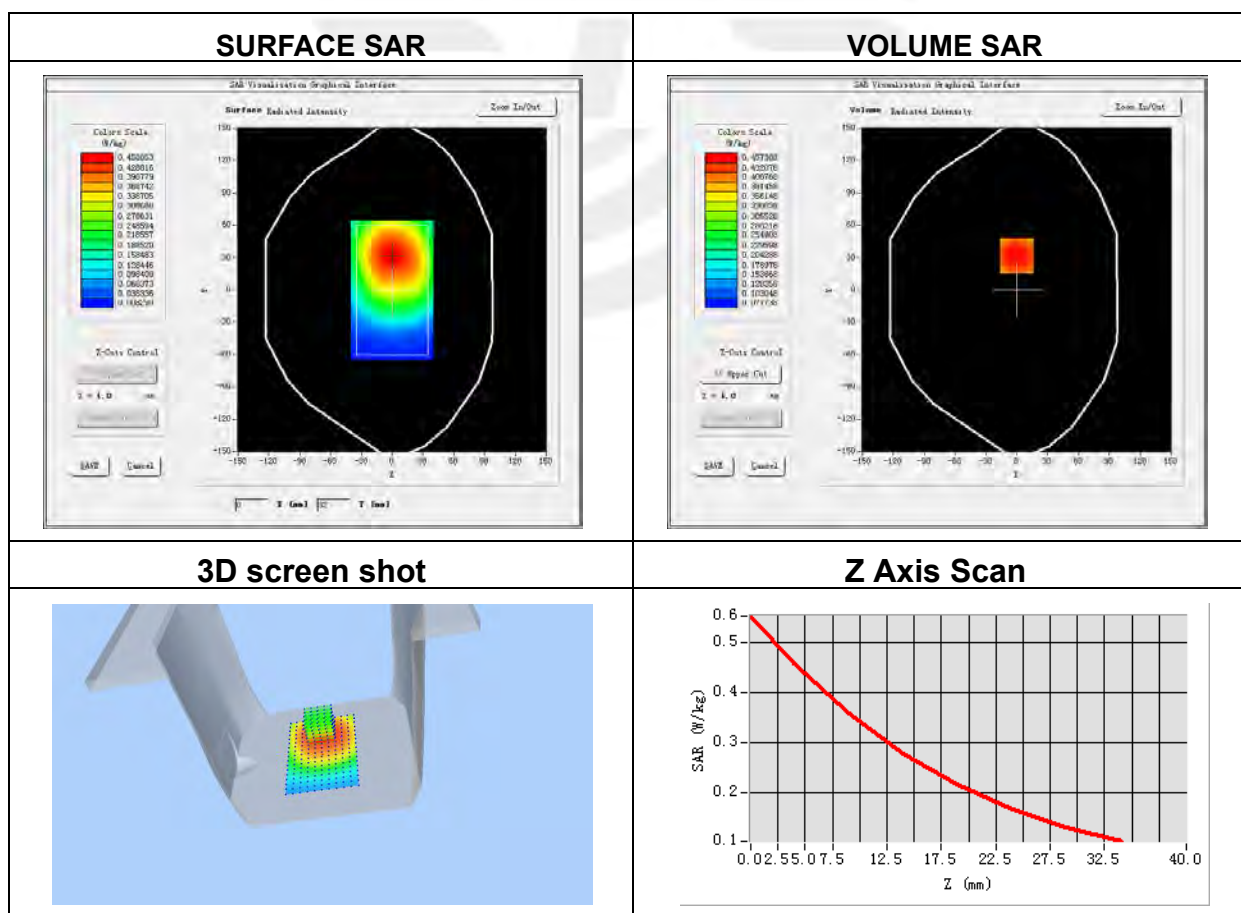
Plot 32: DUT: Smart phone; EUT Model: Titan pocket

Test Date	2021-03-30
Probe	SN 07/21 EPGO352
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm, Complete/ndx=8mm, dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Back Side
Band	LTE Band 26
Channels	Mid
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	831.5
Relative permittivity (real part)	41.99
Conductivity (S/m)	0.88

Maximum location: X=0.00, Y=32.00

SAR Peak: 0.57 W/kg

SAR 10g (W/Kg)	0.332622
SAR 1g (W/Kg)	0.445403



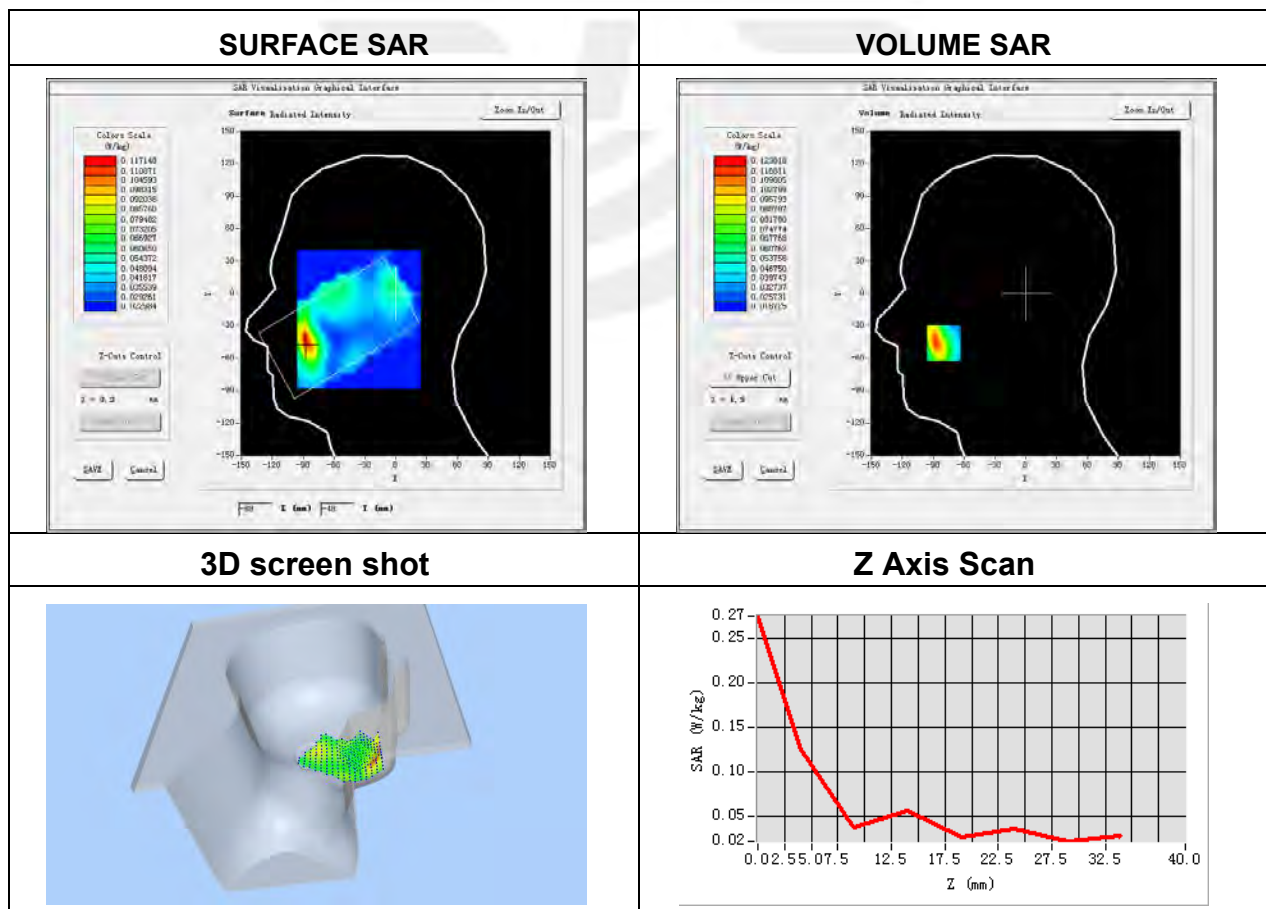
Plot 33: DUT: Smart phone; EUT Model: Titan pocket

Test Date	2021-04-07
Probe	SN 07/21 EPG0352
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm, Complete/ndx=8mm, dy=8mm, h= 5.00 mm
Phantom	Left head
Device Position	Cheek
Band	LTE Band 38
Channels	Mid
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	2595
Relative permittivity (real part)	39.01
Conductivity (S/m)	1.95

Maximum location: X=-80.00, Y=-46.00

SAR Peak: 0.20 W/kg

SAR 10g (W/Kg)	0.070266
SAR 1g (W/Kg)	0.118621



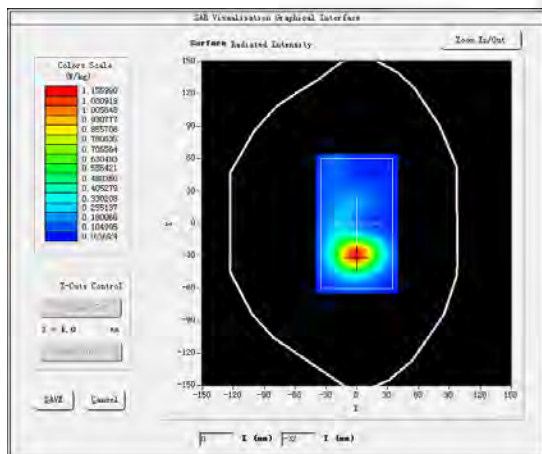
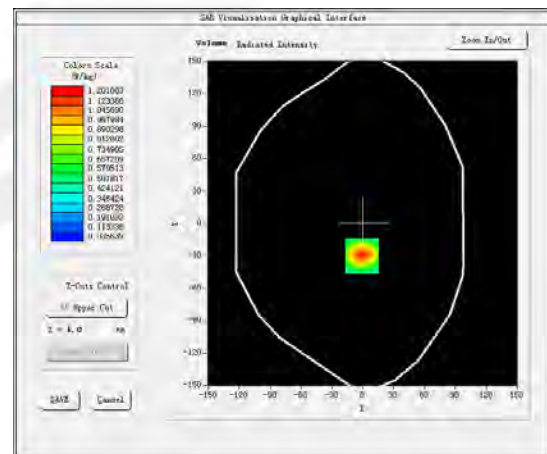
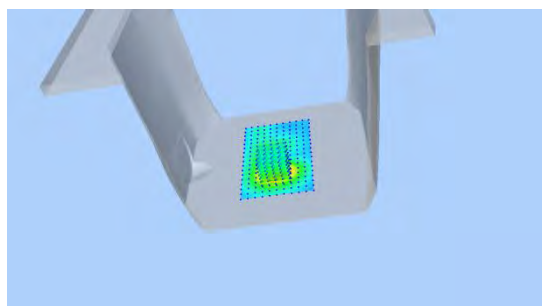
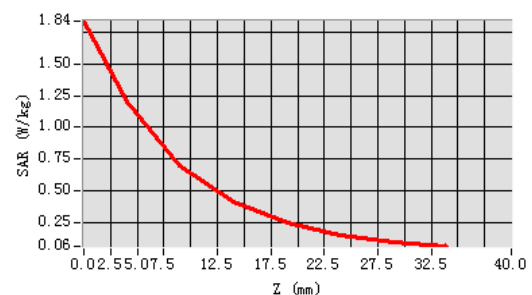
Plot 34: DUT: Smart phone; EUT Model: Titan pocket

Test Date	2021-04-07
Probe	SN 07/21 EPGO352
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm, Complete/ndx=8mm, dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Back Side
Band	LTE Band 38
Channels	Mid
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	2595
Relative permittivity (real part)	39.01
Conductivity (S/m)	1.95

Maximum location: X=-1.00, Y=-30.00

SAR Peak: 1.85 W/kg

SAR 10g (W/Kg)	0.601471
SAR 1g (W/Kg)	1.131960

SURFACE SAR

VOLUME SAR

3D screen shot

Z Axis Scan


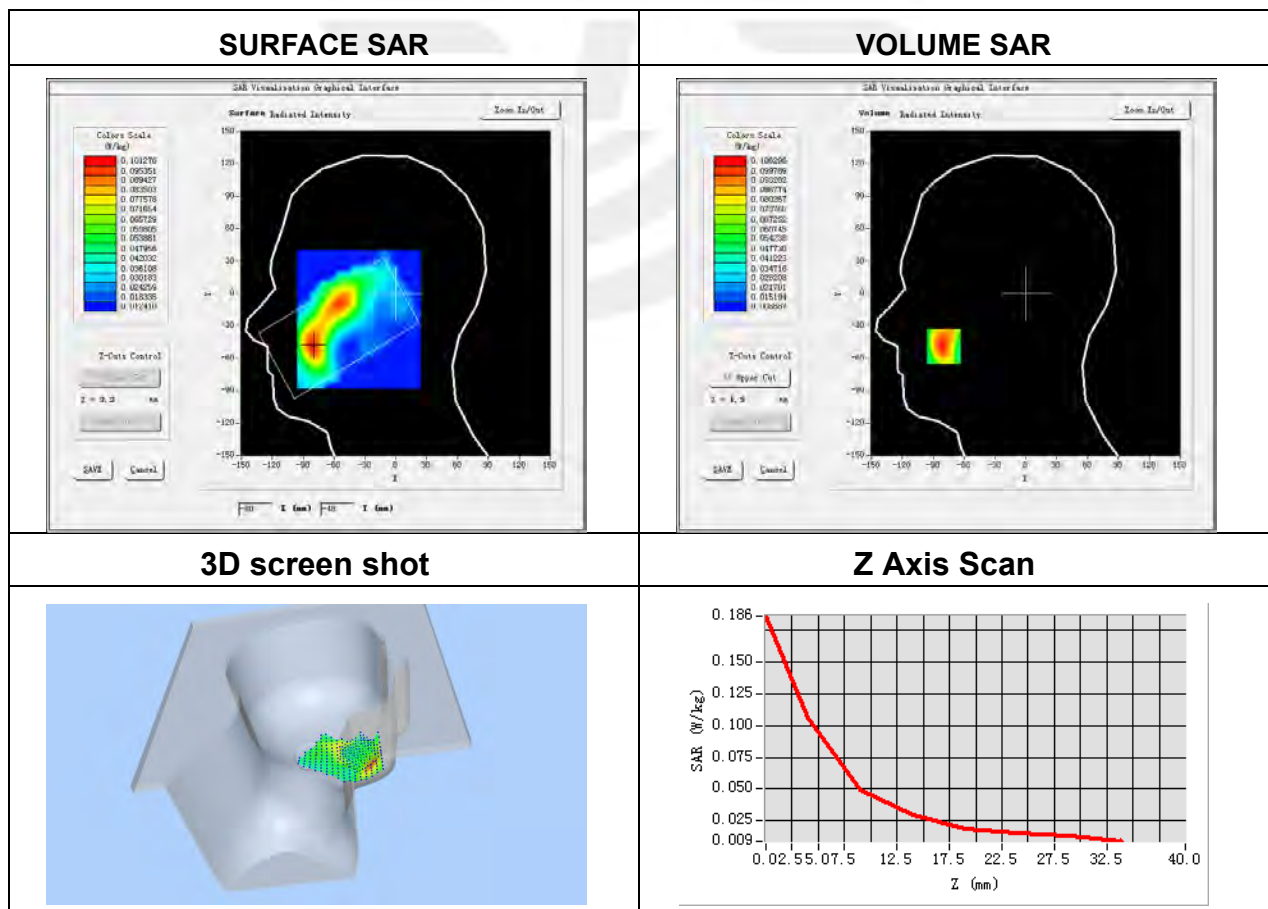
Plot 35: DUT: Smart phone; EUT Model: Titan pocket

Test Date	2021-04-06
Probe	SN 07/21 EPG0352
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm, Complete/ndx=8mm, dy=8mm, h= 5.00 mm
Phantom	Left head
Device Position	Cheek
Band	LTE Band 40
Channels	Low
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	2310
Relative permittivity (real part)	39.40
Conductivity (S/m)	1.71

Maximum location: X=-80.00, Y=-49.00

SAR Peak: 0.18 W/kg

SAR 10g (W/Kg)	0.057424
SAR 1g (W/Kg)	0.104987



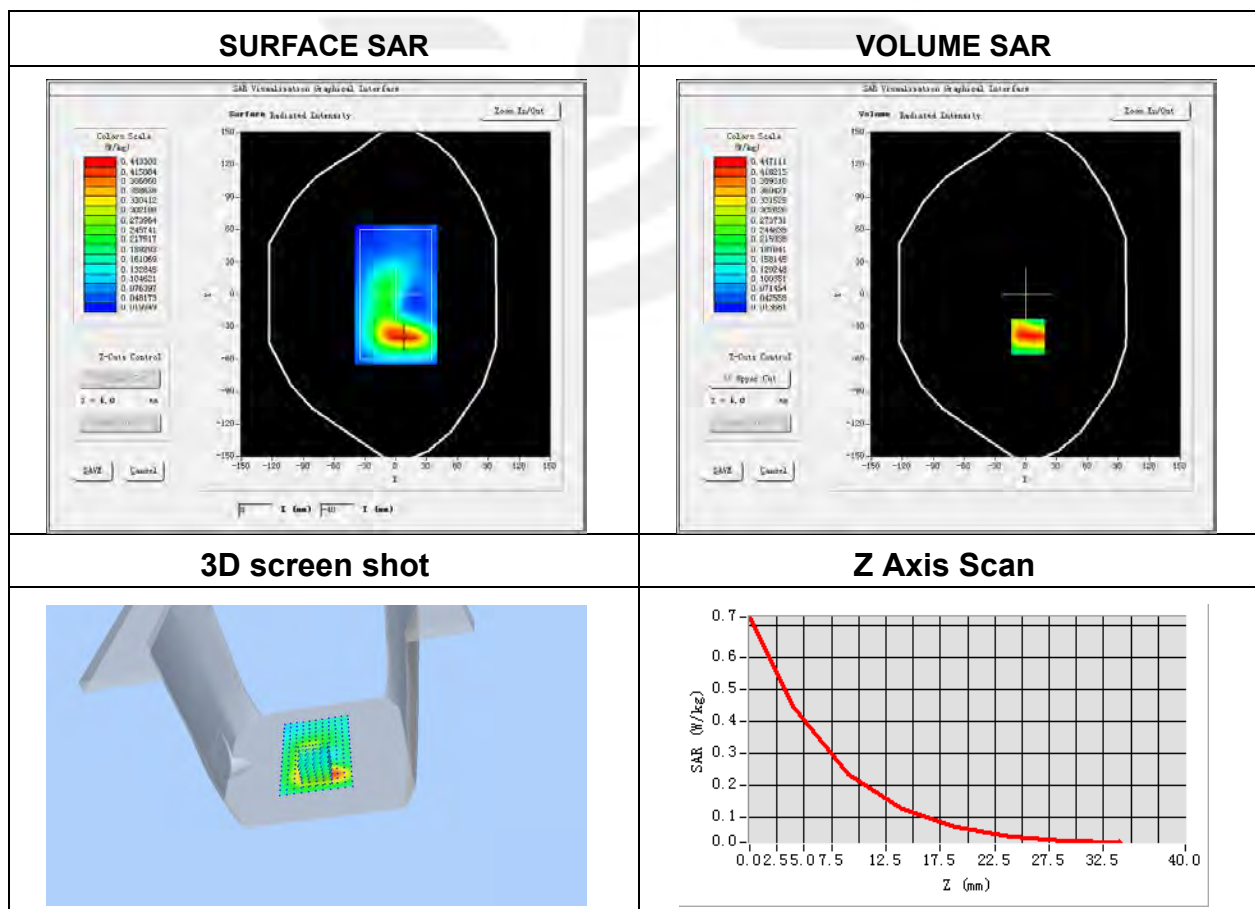
Plot 36: DUT: Smart phone; EUT Model: Titan pocket

Test Date	2021-04-06
Probe	SN 07/21 EPGO352
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm, Complete/ndx=8mm, dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Back Side
Band	LTE Band 40
Channels	Low
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	2310
Relative permittivity (real part)	39.40
Conductivity (S/m)	1.71

Maximum location: X=2.00, Y=-39.00

SAR Peak: 0.73 W/kg

SAR 10g (W/Kg)	0.217585
SAR 1g (W/Kg)	0.425203



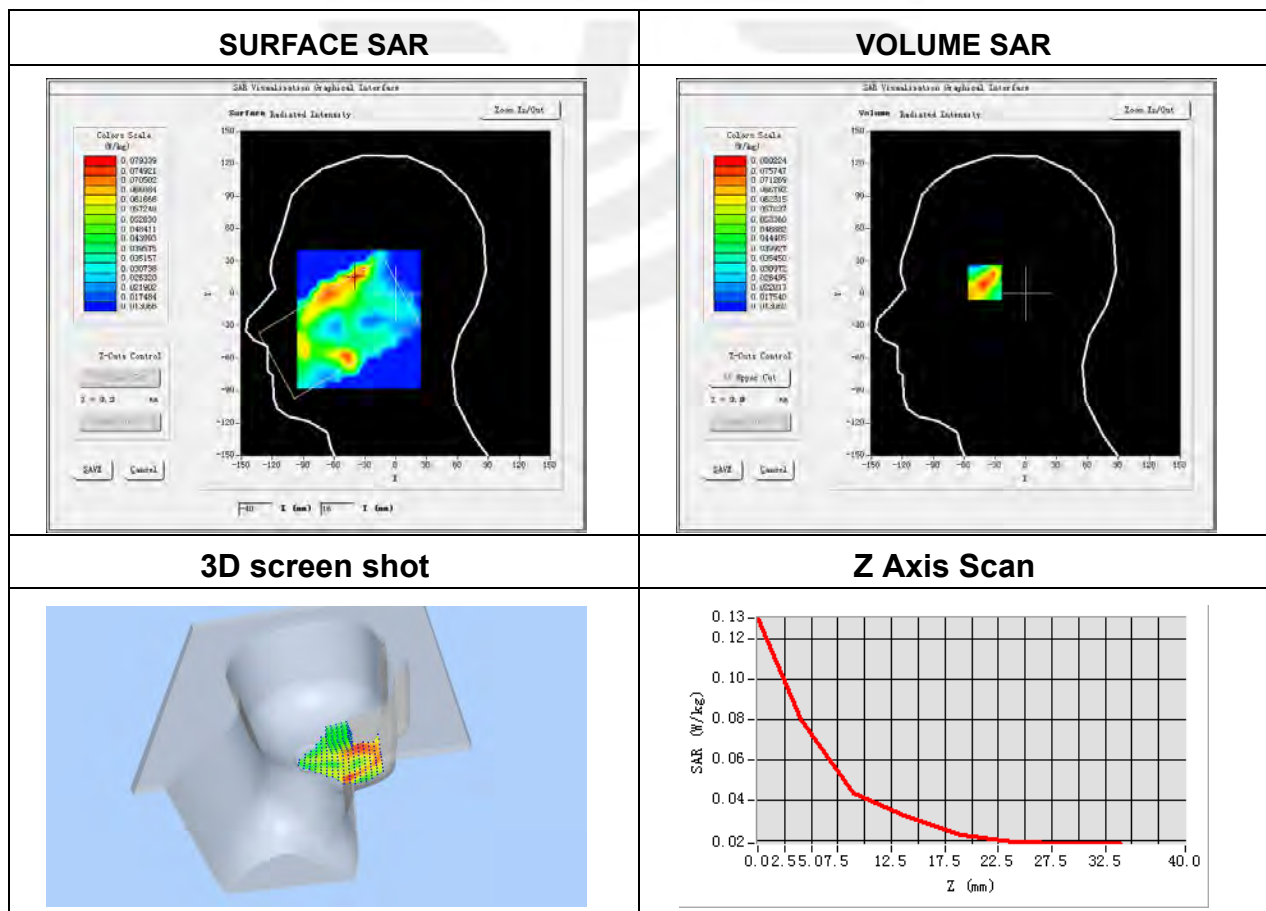
Plot 37: DUT: Smart phone; EUT Model: Titan pocket

Test Date	2021-04-07
Probe	SN 07/21 EPG0352
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm, Complete/ndx=8mm, dy=8mm, h= 5.00 mm
Phantom	Left head
Device Position	Cheek
Band	LTE Band 41
Channels	Mid
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	2593
Relative permittivity (real part)	41.99
Conductivity (S/m)	0.88

Maximum location: X=-40.00, Y=16.00

SAR Peak: 0.13 W/kg

SAR 10g (W/Kg)	0.044753
SAR 1g (W/Kg)	0.075511



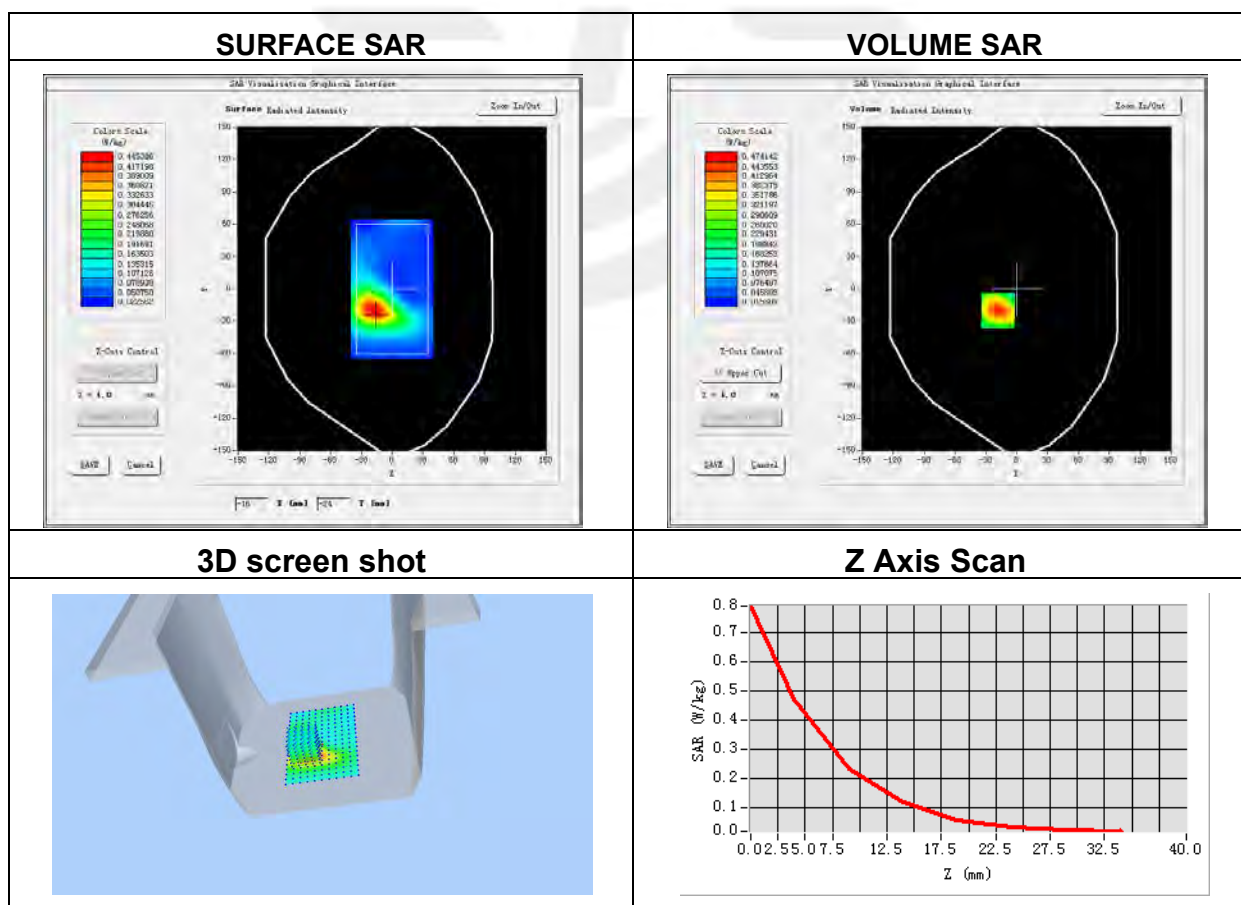
Plot 38: DUT: Smart phone; EUT Model: Titan pocket

Test Date	2021-04-07
Probe	SN 07/21 EPGO352
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm, Complete/ndx=8mm, dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Back Side
Band	LTE Band 41
Channels	Mid
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	2593
Relative permittivity (real part)	41.99
Conductivity (S/m)	0.88

Maximum location: X=-18.00, Y=-20.00

SAR Peak: 0.78 W/kg

SAR 10g (W/Kg)	0.224241
SAR 1g (W/Kg)	0.447808



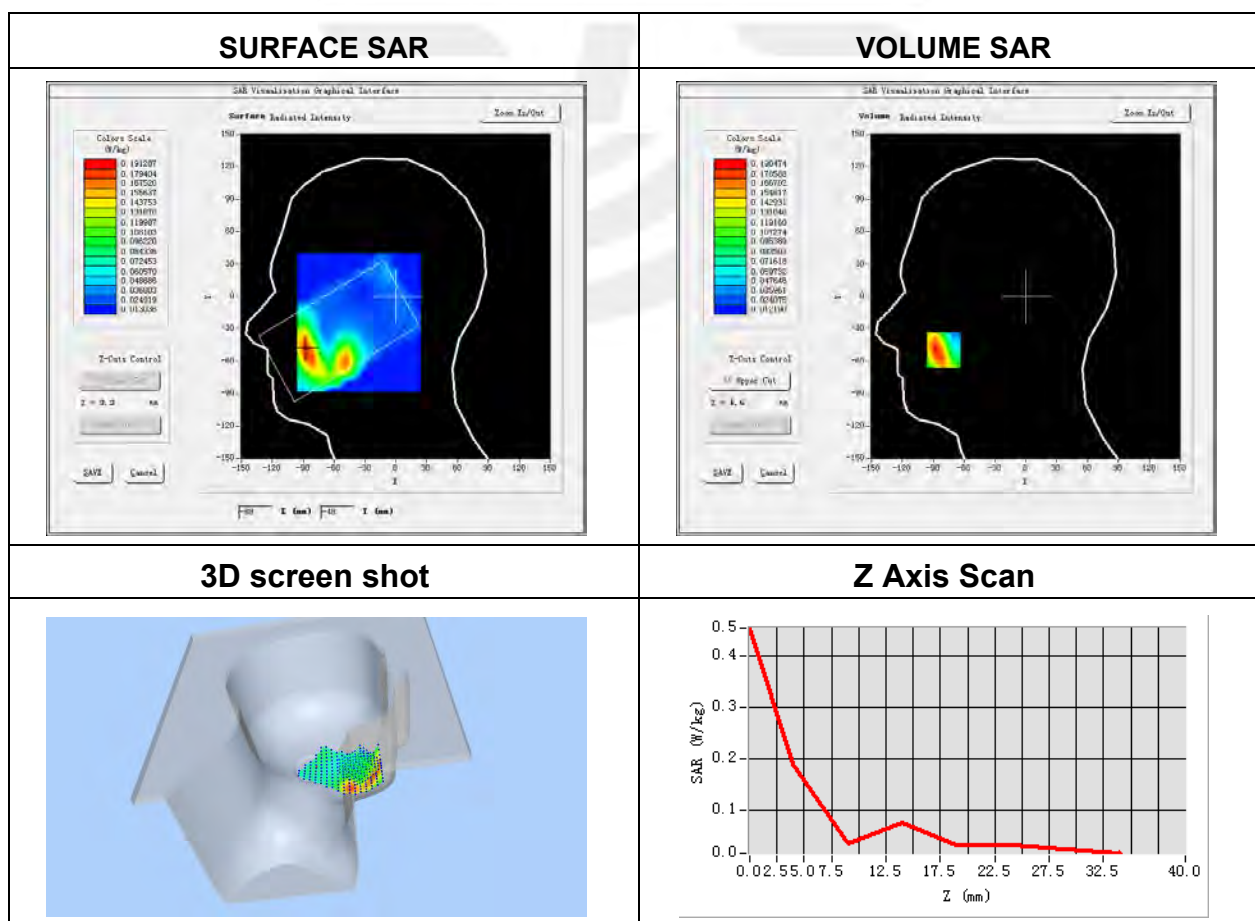
Plot 39: DUT: Smart phone; EUT Model: Titan pocket

Test Date	2021-04-01
Probe	SN 07/21 EPGO352
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm, Complete/ndx=8mm, dy=8mm, h= 5.00 mm
Phantom	Left head
Device Position	Cheek
Band	LTE Band 66
Channels	Mid
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	1745
Relative permittivity (real part)	42.40
Conductivity (S/m)	0.89

Maximum location: X=-80.00, Y=-50.00

SAR Peak: 0.32 W/kg

SAR 10g (W/Kg)	0.107062
SAR 1g (W/Kg)	0.188343



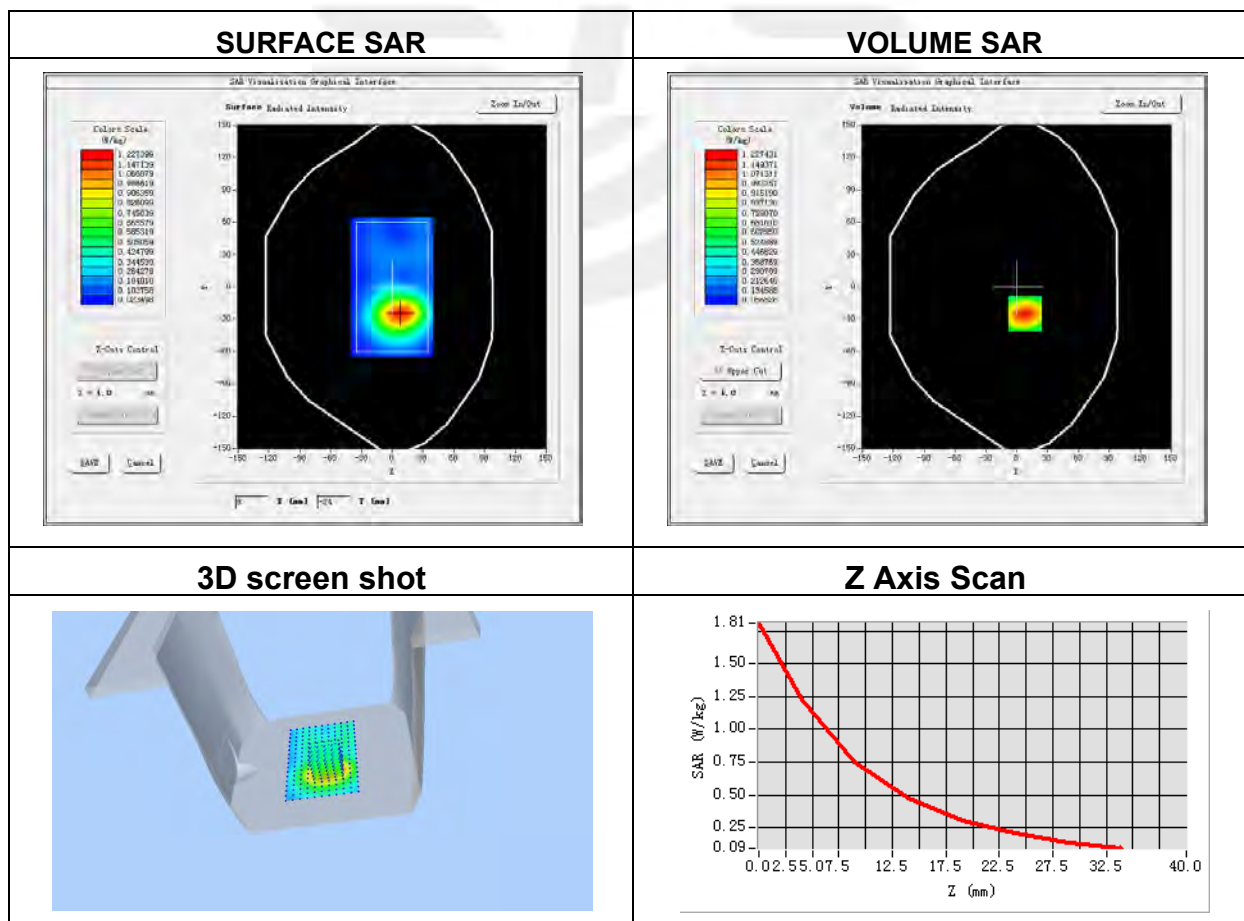
Plot 40: DUT: Smart phone; EUT Model: Titan pocket

Test Date	2021-04-01
Probe	SN 07/21 EPGO352
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm, Complete/ndx=8mm, dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Back Side
Band	LTE Band 66
Channels	Mid
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	1745
Relative permittivity (real part)	42.40
Conductivity (S/m)	0.89

Maximum location: X=8.00, Y=-36.00

SAR Peak: 1.81 W/kg

SAR 10g (W/Kg)	0.679273
SAR 1g (W/Kg)	1.163941



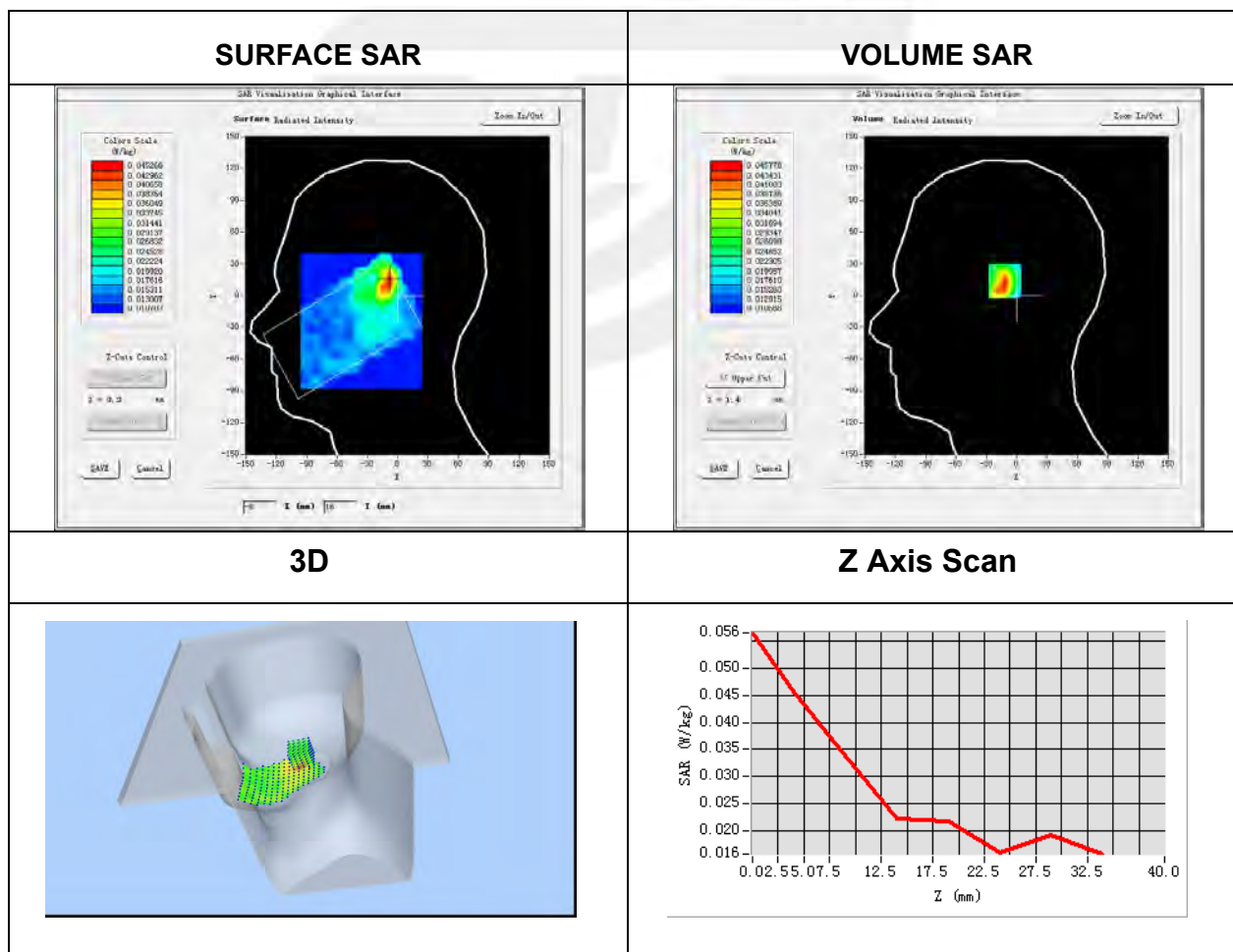
Plot 41: DUT: Smart phone; EUT Model: Titan pocket

Test Date	2021-04-06
Probe	SN 07/21 EPG0352
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm, Complete/ndx=8mm, dy=8mm, h= 5.00 mm
Phantom	Right head
Device Position	Cheek
Band	IEEE 802.11b ISM
Channels	Mid
Signal	IEEE802.b (Crest factor: 1.0)
Frequency (MHz)	2437
Relative permittivity (real part)	37.87
Conductivity (S/m)	1.75

Maximum location: X=-8.00, Y=15.00

SAR Peak: 0.07 W/kg

SAR 10g (W/Kg)	0.027896
SAR 1g (W/Kg)	0.042822



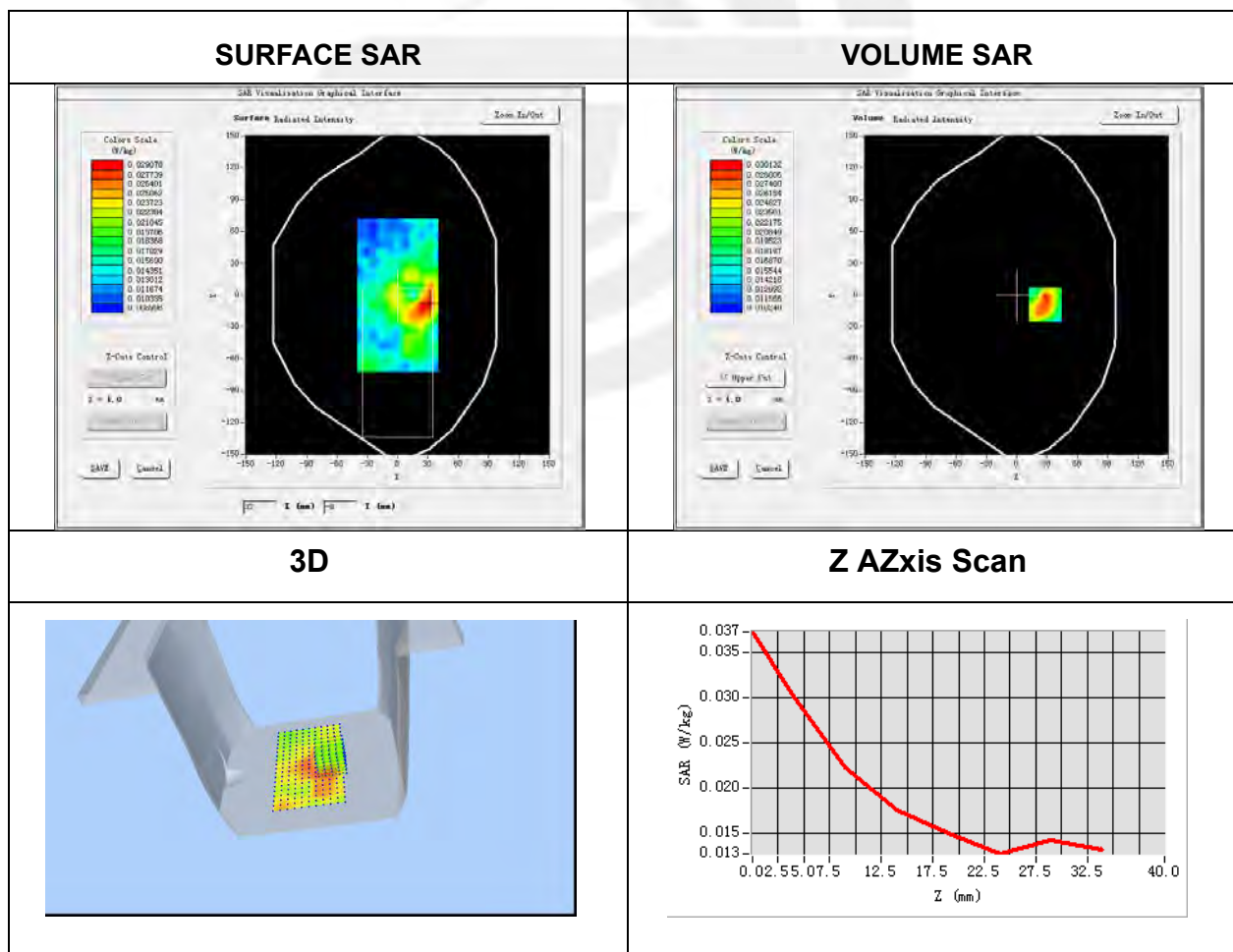
Plot 42: DUT: Smart phone; EUT Model: Titan pocket

Test Date	2021-04-06
Probe	SN 07/21 EPGO352
Area Scan	dx=8mm, dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7, dx=8mm, dy=8mm, dz=5mm, Complete/ndx=8mm, dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Front Side
Band	IEEE 802.11b ISM
Channels	Mid
Signal	IEEE802.b (Crest factor: 1.0)
Frequency (MHz)	2437
Relative permittivity (real part)	37.87
Conductivity (S/m)	1.75

Maximum location: X=28.00, Y=-+.00

SAR Peak: 0.04 W/kg

SAR 10g (W/Kg)	0.020182
SAR 1g (W/Kg)	0.027864





Appendix C. Probe Calibration and Dipole Calibration Report

Refer the appendix Calibration Report.

※※※※END OF THE REPORT※※※※

